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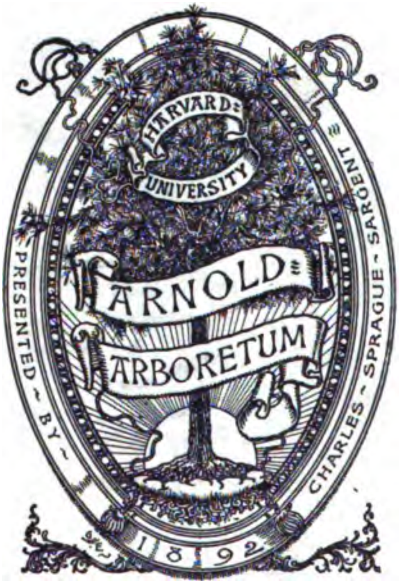
46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1826.

CONDUCTED

By J. C. LOUDON, F.L.S. H.S. &c.

AUTHOR OF THE ENCYCLOPÆDIAS OF GARDENING AND OF AGRICULTURE, AND
EDITOR OF THE ENCYCLOPÆDIA OF PLANTS.

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PREFACE.

The first volume of the Gardener's Magazine being completed, the purchasers of it will naturally, and very properly, compare its contents with the plan and promises held forth in the Prospectus. We invite them to do so. This may appear presumption or vanity: it would be so, were we not indebted to our contributors for having been enabled to carry into execution that plan and those promises. That our contributors are neither few nor unknown, that they are well qualified to be of essential service to the cause in which we are embarked, the list of them subjoined will amply testify.

We had two grave objects in view; — to disseminate new and important information on all topics connected with horticulture, and to raise the intellect and the character of those engaged in this art. That these objects have been furthered even during the short period of this Magazine's existence, we cannot doubt, when we consider the number of subjects treated of in original articles, the quantity of valuable matter condensed in the reviews, the great variety of miscellaneous intelligence, foreign and domestic, and even the implements, new fruits, addresses of garden artists and artisans, titles of books on gardening, and rural subjects, recorded in the advertising department. A number of the books from which information is drawn are in foreign languages; and others, from their prices, out of the reach of most readers, and especially of those readers to whom their use would be the greatest.

As the object of the Gardener's Magazine is the dissemination of useful knowledge, its subjects inexhaustible as the vegetable kingdom, and among the most interesting that concern domestic life; its plan calculated to procure information from every possible source at home or abroad; its contributors belonging to every department of gardening and botany; and its conductor devoted to the subject, from inclination no less than interest, its readers may reasonably expect it to improve as it advances. At all events, they may rely that no exertion will be wanting on the part of its conductor to render it of real service to gardening and gardeners, and worthy a continuation of that encouragement which it has received.

J. C. L.

Bayswater, London, Sept. 1826.

LIST OF CONTRIBUTORS TO VOL. I.

Page

A Common Sense reforming Gardener 135
A Constant Reader, 378
A Correspondent, 162
A Fellow of the Horticultural Society, 146
A Friend to Discussion, 395
——— Facts, 393
Agardh, Professor, of Lund, Sweden, 446
A Middle-aged Gardener, 463
An Amateur, 15
——— of Sussex, 453
Anderson, Mr. John, F.H.S., Gardener to the Earl of Essex, at Cashiobury, 353
———, Mr. William, F.L.S. H.S. Curator of the Botanic Garden, Chelsea, 384
Anonymous Contributor, 105
Archibald, Mr. Joseph, C.M.H.S. of Dalhousie Castle, N.B., 251
Baines, E. M., Esq., Surgeon, Hendon, 273
Balfour, Mr. William, Gardener, Howick, 274
Bishop, Mr. David, New Scone, Perthsh. 126
Bowie, Mr. James, Botanical Collector at the Cape, 363. 473
Braddick, John, Esq. F.H.S. of Boughton Mount, Kent, 33. 144. 249
Buchan, Mr. William, F.H.S., Gardener to Lord Bagot, Blithfield, near Litchfield, 275
Burges, Mr. James, Coffleet, Devonshire, 389
Burnard, J.P. Esq., Eden Grove, Holloway 141
C. of Rouen, 445
Collyns, William, Esq. Kenton, Devon., 401
D. B. 454
Dingwall, Miss Ann, 153
Donald, Mr. R., of Woking Nursery, 268. 467
Duff, Mr., C.M.H.S., Eton Hall, 128. 151
Dunbar, Professor George, F.R.S.E., &c. Rose Park, Edinburgh, 131
Dutton, Hely, Esq., Landscape Gardener, Mount Bellew, Castle Blakeney, Ireland, 358
Felton, T. Esq. 469
Forbes, Mr., Gardener to His Grace the Duke of Bedford, at Woburn Abbey, 94
Fraser, Mr. J., Dartfield, Loughrea, 26. 261
Fulton, Mr. George, Gardener to Lord Northwick, Northwick Park, near Moreton-in-the-Marsh, Gloucestershire, 399
G. D. 468
G. P. 466
G. R. Gardener, Champion Hill, Surrey, 278
G. R. G. 410
G. S. 358
Gordon, James, Esq. Forcett, near Hobart's Town, Van Diemen's Land, 207
Gorrie, Mr. Archibald, C.H.S. of Annat Garden, Perthshire, 44
Gray, Mr. Henry, Gardener, Camberwell, 150
Greig, John, Esq. Upper Paradise House, Islington, 346
Grierson, William, Esq. Secretary to the Dumfries and Galloway Horticultural Society, Dumfries, 217. 457
Hall, William, Esq. of Wanbro, Edward's County, Illinois, 327
Hamilton, William, Esq. M.D., Fareham Place, near Plymouth, 403
Hirst, Mr. William, Gardener to Joseph Batho, Esq. Cheshunt, Herts, 465
Hosack, David, M.D. F.R.S. L.S. H.S. &c. Professor of Medicine in the University of the State of New York, and President of the New York Hort. Soc. 205
Huddlestone, T. C. Esq. F.H.S. 388. 470
Ingram, Mr. T., Frogmore, 451
J. D. C. S. 470
J. H. L. Esq., 453
Ignoramus, Suburbs of York, 470
J. L. of Warsaw, 326
Johnston, Mr. Andrew, Journeyman Gardener, Shugborough Gard., Staffordsh., 407
Kitaiewski, Professor W. P. A. M., Warsaw, 3. 75
Knight, Mr. Joseph, F.H.S., Nurseryman, King's Road, 207
Lachlan, Robert, Esq. London, 464
La Gasca, Professor Don Mariano, of the University of Madrid, 235
Lindsay, Mr. Gardener to His Grace the Duke of Devonshire, at Chiswick, 89
Loddiges', Messrs. of Hackney Garden, 136
Loudon, Mr. James, Gardener, Ham House, Essex, 452
Lucombe, Pince, and Co., Nurserymen, Exeter, 453
M'Arthur, Mr. Peter, F. H. S., Grange, Hampshire, 105
MacIntosh, Mr. Charles, Stratton Park, Hampshire, 139
MacLaurin, Mr. Thomas, Gardener, Bunny Park, Nottinghamshire, 390
MacNaughton, Mr. Archibald, Hackney, 24
Masters, Mr. T. H., F.H.S., Nurseryman, Stoke Newington, 153
Mentor, 412
Moore, Mr. William, Gardener at East Ham, Surrey, 152
Morris, Richard, Esq., F.L.S. of London, 116
Neill, Patrick, Esq., F.L.S. C.M.H.S., Secretary to the Caledonian Horticultural Society, Edinburgh, 337
Oldacre, Mr. I. of Spring Grove, F.H.S. 36. 278
Penny, Mr. George, Foreman of the Herbaceous Department, Tooting Nursery, 465
Petersen, Mr. Jens, of Copenhagen, now in England, 269
Philalethes, 211
R A. M. 472
R. P. Esq. Louth, 233
R. S. 472
R. W. of London, 405
Reeve, Mr. James, Gardener to G. F. Evans, Esq., and Lady Carberry, at Laxton Hall, Northamptonshire, 402
Rollison, Mess., Nurserymen, Tooting, 88. 368
Rusticus of Kent, 153
S. L., near Worcester, 464
Salisbury, R. A., Esq., F.R.S. L.S. H.S. &c. 43. 122
Saul, Mr. Matthias, of Lancaster, 152. 211. 267. 347. 431. 451
Saunders, Mr. B., Nurseryman, Island of Jersey, 87
Saunders, Mr. H., Gardener, Kitley, Devon, 265
Sensitiva, 463
Seymour, Mr. William, Gardener, Weddington, 128
Shennan, Mr. William Johnston, Gardener to Major Morrison, Gunnersbury House, Middlesex, 398
Simson, Mr. James, Gardener, Musselburgh, N.B. 29
Sinclair, Mr. George, F.L.S. H.S., Nurseryman, New Cross Nursery, 26. 119
Stevenson, William, Esq. of Beaufort Row, Chelsea, 101
Stock, Daniel, Esq. Bungay, Suffolk, 358
Sweet, Mr. Robert, F.L.S., of Chelsea, 31
T. A. of Petersburgh, 447
Thompson, Mr. J. Jun., Gardener, Welbeck Gardens, 466
Thomson, Anthony Todd, Esq., M. D. F.L.S. H.S. &c. 20. 396
Thomson, Mr. John, Land Surveyor, London, 16. 118. 280
Tredgold, T., Esq. Engineer, of London, 37
Verus, of Berwickshire, 259
W. B. of Stirlingshire, 453
W. R. G., West Riding, Yorkshire, 471
Willis, Mr. Richard, Gardener to John Harris, Esq. Radford, Plymstock, Devon, 471
Willmot, Mr., F.H.S. Nurseryman, Lewisham, 336
Wilmot, Mr. John, F.H.S. Isleworth 386

CONTENTS.

Introduction - - - Page 1.

Part I. ORIGINAL COMMUNICATIONS.

On the present State of Gardening in Ireland, with Hints for its future Improvement. By Mr. James Fraser, Gardener, Author of a Letter to the President and Vice President of the Horticultural Society of Ireland, Page 10. 261
Upon the Method of setting the Fruit of the Granadilla. By an Amateur, - 15
Remarks on the Effect of the Lombardy Poplar in Park Scenery. By Mr. John Thomson, Land Surveyor and Pictorial Draughtsman, 16
Observations on an Hypothesis concerning the Effects of Green Vegetable Manure. By Anthony Todd Thomson, M.D. F.L.S. &c. Author of Lectures on Botany, - - 20
On the Life of a Jobbing Gardener. By Mr. Archibald M'Naughton, New Ground Workman, Hackney, - - - - 24
On cultivating a Collection of Grasses in Pleasure Grounds or Flower Gardens. By Mr. George Sinclair, F.L.S. H.S. &c. Author of Hortus Gramineus Woburnensis, 26. 112
Of the best Mode of washing Water Cresses and other Salads, so as to free them from the Larvæ of Insects and Worms. By Mr. James Simson, Gardener, Musselburgh, near Edinburgh, - - - - - - 29
On the Cultivation of Hothouse bulbous-rooted Plants. By Mr. Robert Sweet, F.L.S., Author of the Botanical Cultivator, Cistineæ, and other Works, - - - 31
Historical Notice of the Present de Malines Pear. By John Braddick, Esq. F.H.S. of Boughton Mount, Kent, - - 33
On the Cultivation of the Grape known as West's St. Peter, as practised at Spring Grove. By Mr. Isaac Oldacre, F.H.S., Gardener to the Emperor of Russia, - - - - 36
On the Relations of Heat, Moisture, and Evaporation, in natural and artificial Atmospheres. By Thomas Tredgold, Esq. Civil Engineer. - - - - - 37
On the Cultivation of Vines in the open Air in Great Britain. By R. A. Salisbury, Esq. F.R.S. L.S. H.S. &c. - - - 43
On the Culture of the Huntingdon Willow, Salix alba, as a Timber Tree. By Mr. Arch. Gorrie, C.H.S. &c. of Annat Garden, Perthshire, - - - - - - - 44
On the Benefits to be derived by the Country Labourer from a Garden, and the Means of teaching him how to acquire those Benefits. By William Stevenson, Esq. Author of the Agricultural Surveys of Surrey and Dorsetshire, &c. - - - - - - 101
Some Account of a Conservatory lately erected at the Grange, the Seat of Alexander Baring, Esq. M.P. Hampshire. By Mr. Peter M'Arthur, F.H.S. Gardener there, with a preliminary Notice respecting the Architecture of the Mansion, by an anon. Contributor 105
Remarks on Mr. Thompson's Observations on the Effect of the Lombardy Poplar in Park Scenery. By Richard Morris, Esq. F.L.S., Surveyor and Landscape Gardener - 116
Remarks on the Effects of the Cedar of Lebanon in Landscape. By John Thompson, Esq. Pictorial Draughtsman, and Student of Landscape Gardening - - - - 118
On forcing Roses. By R. A. Salisbury, Esq. F.R.S. &c. - - - - - 122
History, Description, and Mode of Treatment of Bishop's Early Dwarf Pea. By Mr. David Bishop - - - - Page 126
On a new Mode of training the Peach-tree, invented by Mr. J. Seymour, and communicated by Mr. William Seymour, Gardener at Weddington, and Mr. Duff, Gardener to the Earl of Grosvenor, at Eton Hall - - 128
A Catalogue of Ericæ, in the Collection of George Dunbar, Esq. F.R.S.E. &c. Professor of Greek in the University of Edinburgh. Communicated by the Professor - - 131
On the evil Effects of a Head Gardener being lodged any where else than in his Garden. By a Common Sense reforming Gardener 135
Catalogue of the different Species of Palm cultivated in the Stoves of the Hackney Garden. Communicated by Messrs. Loddiges - 136
On a new Verge Cutter and Orange Tub, invented by Mr. Charles Mac Intosh, Gardener to Sir Thomas Baring, Bart., and also on a new Mode of preserving Cauliflowers by the same, in a Letter to Mr. Mackay, of the Belgrave and Clapton Nurseries - - 139
On the Remuneration of Gardeners. By P. Burnard, Esq. of Eden Grove, Holloway 141
On the Beurré Spence and other new Pears, and on the Art of keeping Fruit. By W. Braddick, Esq. F.H.S. of Boughton Mt. Kent 144
Remarks on the Constitution and Administration of the London Horticultural Society. By a Fellow of the Society - - 146
On the Cultivation of Gourds and Pompions. By Mr. Henry Gray, Gardener, Camberwell. Dated December 12. 1825 - - 150
On the Cultivation of the English and American Cranberry, and the Water Cress, at Bretton Hall. By Mr. Christie Duff, late Gardener there. Dated December 20. 1825. 151
On the Management of newly imported Orange and Lemon Trees. By Mr. William Moore, Gardener at East Ham, Surry. Dated January 25. - - - - - - 152
An Account of an Experiment, which serves to show that Hot-house Flues may draw very well without terminating in an upright Shaft or Chimney. By Mr. Matthias Saul, of Lancaster, Inventor of Saul's Fruit Gatherer (Encyc. of Gard. § 1347.) and other Machines. Dated February 7. - - 152
On the Winter Management of Bees, by a Clergyman, in Morayshire. Communicated by Miss Ann Dingwall. Dated Feb. 9. 153
Historical Notice of Two Varieties of the Garden Pea. By Mr. T. H. Masters, Eden Nursery, Stoke Newington. Dated Feb. 25. 153
On the Cultivation of Pear Trees for Perry. By Rusticus, of Kent. Dated February 25. 153
Remarkable Specimens of Pœonia papaveracea, Madras, Citron, and Magnolia Conspicua, in the Gardens of Wormleybury, in Hertfordshire. Communicated by Sir Abraham Hume, Bart. F.R.S. H.S. &c. the Proprietor. Dated March 18. - - - - - 154
Sketches of the Botanical, Horticultural, and Agricultural Circumstances of Spain. By Don Mariano La Gasca, Professor of Botany in the University of Madrid - - 235
Notices of Three New Keeping Pears. By John Braddick, Esq. F.H.S. - - - 240

Dalhousie Castle and Gardens; the Botany of the Neighbourhood, and various Remarks. By Mr. Joseph Archibald, C.M.H.S., upwards of Nineteen Years Gardener there Page 251

On Field Gardening, and on the Gardens of Farm Servants in Scotland. By Verus, of Berwickshire - - - - - 259

Some Account of the Kitley Shaddock. By Mr. H. Saunders, Gardener to E. P. Bastard, Esq. M. P., of Kitley, Devonshire - 265

Description of a new Transplanting Instrument, for removing Plants when in Flower. Invented by Mr. Matthias Saul, of Lancaster, and communicated by him - - 267

On a Mode of keeping Apples through the Winter, as practised by Mr. Robert Donald, Nurseryman, Woking - - - 268

Some Account of the Gardens, and State of Gardening in Denmark. By Mr. Jens Petersen, of Copenhagen, now studying the Art and Practice of Gardening in England 269

On an anomalous Appearance in some Species of Lilium. By E. M. Baines, Esq. Hendon 273

Observations on Reverse Grafting. By Mr. William Balfour, Gardener to the Earl Grey, at Howick - - - - 274

On improving the Gardens of Cottages, as practised by the late Lord Cawdor, at Stackpole Court, in Pembrokeshire. Communicated by Mr. William Buchan, F.H.S., Gardener to Lord Bagot, at Blithfield, near Litchfield, 275

On the Cultivation in the open Garden, and Treatment in the Forcing-house, of the Strawberry, known as "Wilmot's Superb." By Mr. Isaac Oldacre, F.H.S., Gardener to the Emperor of Russia, - - - 278

On the Importance of Regularity and systematic Conduct in practical Gardeners. By G. R. Gardener, Champion Hill, Surrey 278

Design for improving the Parks, by extending Kensington Gardens, and continuing the Serpentine River into the Green Park, &c. By John Thomson, Esq. Pictorial Draughtsman and Student of Landscape Gardening 280

Hints for the better Cultivation of the Cape Heaths, derived from Observation of their Nature, Soils, and Situations. By Mr. James Bowie, Botanical Collector at the Cape - 363

List of Cape Heaths which have been in Flower in the Tooting Nursery in each Month of the Year. Communicated by Messrs. Rollison, Nurserymen, Tooting - - - 366

On the present State of Gardening in Poland. By W. P. A. M. Kitaiewski, Professor of Chemistry in the University of Warsaw - 375

On a Disease which has attacked certain Elm Trees in Camberwell Grove, Surrey. By a Constant Reader - - - - 378

Remarks, including the Results of some Experiments, on budding the Peach and Nectarine on Almond Stocks. By Mr. William Anderson, F.L.S. H.S. &c. Curator of the Botanic Garden, Chelsea - - - - 384

On the Culture of the Cyclamen Persicum. By Mr. John Wilmot, F.H.S. Isleworth Page 386

Some Account of an Attempt to arrest the Ravages of the Aphis lanigera, or American Blight, on Fruit-trees. By T. C. Huddlestone, Esq. F.H.S. - - - - 388

Recipe for composing a Liquid for effectually destroying Caterpillars, Ants, Worms, and other Insects. By Mr. James Burges, Gardener to the Rev. Richard Lane, of Coffleet, Devonshire - - - - - 389

A simple, effectual, and expeditious Mode of destroying the Green Fly and other Insects. By Mr. Thomas M'Laurin, Gardener, Bunny Park, Nottinghamshire - - - 390

Remarks on the Affairs of the London Horticultural Society. By a Friend to Facts 391

Observations on the Article of "A Fellow of the Society," relative to the Conduct and Administration of the London Horticultural Society. By a Friend to Discussion - 393

Hints on the Superiority of the Rheum Palmatum over the other Species of Rheum cultivated for Culinary Purposes. By Anthony T. Thompson, Esq. M.D. F.L.S. H.S. &c. - - - - - 396

On the Treatment of Cactus speciosus speciosissimus, and other ornamental succulent Plants. By Mr. W. J. Shennan, Gardener to Major Morrison, at Gunnersbury Park - 398

On the Use and Abuse of watering Vegetables in dry Seasons, and on the Advantages of Shade to Culinary Crops in Times of great Drought. By Mr. George Fulton, Gardener to Lord Northwick, at Northwick Park, Gloucestershire - - - - 399

On a Devonshire Practice in planting Vines, and on the Use of Salt as a Manure for Arable Lands, and for renovating Grass Lawns. By William Collyns, Esq. Surgeon, Kenton, near Exeter - - - - 401

On the Culture of Nerium oleander splendens. By Mr. James Reeve, Gardener to G. F. Evans, Esq. and Lady Carberry, at Laxton Hall, Wandsford, Northamptonshire, - 402

On the Cultivation in England of the Carolina Wax Tree, with a View to its Produce in Wax. By William Hamilton, Esq. M.D. 403

On the Culture of the early Potatoe, as practised in Lancashire, and on the mode of cooking the Potatoe there. By R. W. - 405

Description of a Pine Pit, to be heated by Steam, erected in Shugborough Gardens, Staffordshire. By Mr. Andrew Johnston, Journeyman Gardener there - - 407

Remarks on the Treatment Under-Gardeners receive from their Masters. By G. R. G., Journeyman - - - - - 410

Reasons for not subscribing towards the Formation or Support of the Garden of the Horticultural Society of London, with some Remarks on the Management of the Society generally. By Mentor - - - 412

Part II. REVIEWS.

The Botanical Magazine, or Flower Garden displayed; in which the most ornamental foreign Plants cultivated in the open Ground, the Greenhouse and the Stove, are accurately represented in their natural Colours, &c. By Wm. Curtis. Continued by John Sims, M.D. F.R.S. &c. 1787 to 1826. 53 vols. 8vo. London - - - - Page 47. 162

The Botanical Register, consisting of coloured Figures of exotic Plants, cultivated in British Gardens; with their History and Mode of Treatment. The Designs by Sydenham Edwards, F.L.S. 1815—1826. Vols. I. to XI. 8vo. Ridgway, London 47. 162

The Botanical Cabinet, consisting of coloured Delineations of Plants from all Countries, with a short Account of each, Directions for Management, &c. &c. By Conrad Loddiges and Sons. 1817 to 1826. 10 vols. 4to. and 8vo. London - - Page 47

Exotic Flora, containing Figures and Descriptions of new, rare, or otherwise interesting exotic Plants, especially of such as are deserving of being cultivated in our Gardens, &c. By W. J. Hooker, LL.D. F.R.A. and L. S. &c. &c. 29 Parts. 8vo. 1823—1826. 2 vols. Blackwood, Edinburgh - 47

Geraniaceæ, or Natural Order of Geraniums. By Robert Sweet, F.L.S. 1820—1826. 6 vols. 8vo. Ridgway, London - - ib.

The British Flower Garden. By Robert Sweet, F.L.S. 1822—1826. 2 vols. 8vo. Simpkin and Marshall, London - - - ib.

Cistineæ. The Natural Order of Cistus or Rock Rose. By Robert Sweet, F.L.S. 3 Nos. 8vo. 1825. Ridgway, London - - Page 48
Flora Conspicua; a Selection of the most ornamental, flowering, hardy, exotic, and indigenous Trees, Shrubs, and herbaceous Plants, for embellishing Flower Gardens and Pleasure Grounds. By Richard Morris, F.L.S. Drawn and engraved from living Specimens, by Wm. Clark. 6 Nos. 8vo. 1825. Smith, Elder, and Co. London - - ib.
The Botanic Garden; or Magazine of hardy Flower Plants cultivated in Great Britain, each Number containing Four coloured Figures. By B. Maund. Nos. 1. to 7. Small 4to. London. Baldwin, Cradock, and Joy - ib.
Transactions of the Horticultural Society of London. Vol. V. Bulmer and Co. 1824 62. 163. 287. 431
List of Works on Gardening, Agriculture, Botany, Domestic Economy, &c. published since January 1824; including New Editions and Translations - - - - - 74
Systematic Botany. — Caroli Linnæi Systema Vegetabilium, editio decima sexta, curante Curtio Sprengel. Vols. 1. & 2. Gottingæ, 1825, 8vo. - - - Page 155
The Scottish Cryptogamic Flora. By Robert K. Greville, LL.D. &c. Maclachlan and Stewart, Edinb.; and Baldwin, Cradock, and Joy, Lond. 8vo. - - - 162
Essay on the Beneficial Direction of Rural Expenditure. By Robert Slaney, Esq. London, 12mo. - - - - 175
Verhandlungen des Vereins zur Beforderung des Gartenbaues, &c.; Transactions of the Society for the Promotion of Gardening in Prussia. Berlin, 1824. Parts 1. & 2. 4to. 186
Récit d'une Excursion Horticulturale faite à Londres, dans le mois d'Avril, 1824. Par M. Soulange-Bodin, Membre de la Société Linnéene de Paris, et de la Société d'Encouragement pour l'Industrie Nationale, &c. &c. (Extrait des Annales de l'Agriculture Françoise, 2de série tome xxviii.) - - 189
Catalogue raisonné of Books published in Britain, France, Germany, Italy, Holland, Sweden, America - - 74. 192. 312. 431
Verhandlungen des Vereins, &c.; Transactions of the Prussian Gardening Society, &c. Vol. I. continued from p. 189. - - 308

PART III. MISCELLANEOUS INTELLIGENCE.

Foreign Notices.
  France, - - - 79. 196. 323. 444.
  Germany, - - - 81. 199. 324. 445.
  Switzerland, - - 82. 200. 325.
  Italy, - - - 82. 200. 325.
  Holland and the Netherlands, - - - 83. 201. 325. 445.
  Sweden, - - 83. 204. 446.
  Denmark, - - 84. 203. 326. 446.
  Russia and Poland, - 84. 203. 326. 447.
  Spain and Portugal, - 85. 204.
  India, - - 85.
  China, - - - 85. 448.
  North America, - 86. 205. 326. 447.
  South America, - 86. 206. 332.
  Asia, - - - 207. 332.
  Australasia, - 86. 207.
Domestic Notices.
  England, - - 87. 210. 333. 449.
  Scotland, - - 90. 217. 337. 455.
  Ireland, - - 94. 223. 339. 457.
Horticultural Society and Garden, - - - 87. 211. 340. 459.
Linnean Society, - - 461.
Flower Shows, - - 346. 450.
Covent-Garden Market, - 216. 348. 462.
Calls at the London Nurseries and other suburban Gardens, - - 220. 349.
Architecture, - - 352.
Domestic Economy - 353.
Cottage Economy - 354.
Hints for Experiments, - 223. 355.
Education of Gardeners, - 225. 355. 463.
Queries and Answers, - 96. 229. 356. 462.
Answers to Queries, - 464.
Biography, - - - - 95. 226.
Obituary, - - 96. 228. 360. 472.

PART IV. ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

Strawberry Plants, - 230.
Pince's Golden Nectarine, 473.
South African Botany, - 473.
Pictorial Plans, - - 231. 362.
Improved Vinery, - 473.
Horticultural Syringe, - 231.
Agricultural Implements, 230.
A Horticulturist's Villa - 231.
Gardener wanted, - 361. 473.
Gardeners wanting situations - - - 230—1.
Books by Mr. Maudd, - 97.
Books by Messrs. John and Arthur Arch, 474.
  Mr. Carpenter, - 97.
  Mr. Harding, - 232. 474.
  Messrs. Longman Rees and Co. 97. 99. 231. 233. 361. 474.
  Mr. Ridgway, - 98. 362.
  Messrs. J. and C. Rivington, - 100.
  Messrs. Simpkin and Marshall - 231.
  Messrs. Smith, Elder and Co. 99.

ENGRAVINGS IN VOL. I.

No. Page

IMPLEMENTS.

28. MacIntosh's verge-cutter, 139
29. MacIntosh's orange box, 140
39. Improved garden hammer, 213
52. Saul's transplanter, 267
53. French transplanter, 268
62. Mr. Knight's improved thrust-hoe, 343

INSTRUMENTS.

6. Hygrometer, 38
38. Bark bed thermometer, 212
48. Leaden tallies for plants, 258
85. Machine for regulating the temperature of hot-houses, 419

UTENSILS.

40. Punnet, 216
60. Ornamental flower-pots of Mr. Willmot, 336
84. Lime-duster, 415

STRUCTURES.

8. Pine-pit heated by flues, 71
13. Section of the Conservatory at the Grange, 108
21. Section of a house for forcing roses, 123
27. Plan of Professor Dunbar's range of hot-houses, 132
36. Mr. Saul's green-house, 152
32. Mearns's cucumber pit, 170
35. Conservatory and hot-houses of M. Caters de Wolf, near Antwerp, 201
47. Circular vinery of General Durham, 254
58. Worm fence of America, 231
61. Mr. Stewart's double espalier, 340
63. Mr. Groom's formidable fence, 350
82. Section of a pine pit to be heated by steam, 409
83. Ground plan of a pine pit to be heated by steam, 409
86. & 87. Plan and section of the conservatory at Valleyfield, 423
88, 89, & 90. Sections of sash-bars and mode of glazing, to prevent the drip of water in hot-houses, 431

EDIFICES.

12. Plan of the Grange House, and the Terrace Gardens, Hampshire, 107
56, 57. Bridges for Hyde Park, 284

OPERATIONS.

9. Reverse training, 72
22. Placing pots of roses to prepare them for forcing, 125
24, 25, 26. Seymour's mode of training the peach-tree, 130, 131
33. Self-inarching, 190
34. Chinese mode of rooting branches, 198
49. Moulds for casting leaden tallies, 258
51. Preparation of orange cuttings, 266
80. Lancashire practice with potatoe sets, 406

No. Page

81. Lancashire practice in planting potatoes, 406
91, 92. Section and surface plan of a tulip bed, 451
97, 98. Training en quenouille, or distaff fashion, 467

DIAGRAM.

7. Illustrative of temperature, 39

PLANTS.

Passion flower dissected, 16
23. Three varieties of early pea, 126
31. Magnolia conspicua, 154
41. Primula sinensis, 220
64. Maclura aurantiaca, 356
65. to 75. Heaths, 98 Species, 367 to 373
79. Cyclamen Persicum, 386
93. Yucca gloriosa, 452
94. Coreopsis tinctoria, 453
95. Œnanthe crocata, 454
96. Goodyera pubescens, and Liparis liliifolia, 465
99. Rosa multiflora and Grevillii, 468
100. Achillea serrata and ageratum, 470

FRUITS.

5. Present de Maline's pear, 35
43. Bishop's orange strawberry, 230
44. Wilmot's superb strawberry, ib.
45. Surpasse St. Germain, Grande Bretagne Dorée, and Prince de Printems pears, 250
50. Kitley Shaddock, 265

PLANS OF GARDENS AND PARKS.

14. Grass garden in the New Cross Nursery, 115
16. Gardens of Babylon, 119
46. Gardens of Dalhousie, 55
55. Hyde Park and Kensington Gardens, 281
59. Garden of Mr. Hall at Wanbro, on the Illinois, 231

LANDSCAPES.

1. to 4. Lombardy poplars in scenery, 17
11. View of the Grange House, Hampshire, 106
15. Poplars and weeping willows in scenery, 117
17, 18, 19, 20. Cedars of Lebanon in scenery, 119, 120, 121, 122.
36. Lake in Petrovskoyé Gardens, 204
37. Waltham House, Massachusetts, 205
54. Palace of Sorgenfrie, 272
76. View of Pulawy, in Poland, 376
77. Villa Nuova, in Poland, ib.
78. Palace of Lazenki, at Warsaw, 377

PORTRAITS.

42. Professor Andrew Thouin, 237
93. Summer costume of a journeyman gardener in the neighbourhood of London; the hat of straw, and the jacket and trowsers of cotton, 452

THE GARDENER'S MAGAZINE,

&c. &c.

INTRODUCTION.

The agreeableness and utility of gardening pursuits are so generally known and acknowledged, that to insist on them here would be superfluous. Horticulture, as a means of subsistence, is one of the first arts attempted by man on emerging from barbarism; and landscape gardening, as an art of design, is one of the latest inventions for the display of wealth and taste in ages of luxury and refinement. The love of gardening is so natural to man, as to be common to children, and the enjoyment of a garden so congenial to our ideas of happiness, as to be desired by men of all ranks and professions, who toil hard in cities, hoping, with Cowley, one day to retire to "a small house and a large garden." The care of a garden is a source of agreeable domestic recreation, and especially to the female sex; to the valetudinarian a garden is a source of health, and to age a source of interest; for it has been remarked of a taste for gardening, that, unlike other tastes, it remains with us to the latest period of life, and increases rather than diminishes.

Next to the gratification of possessing any object, is the pleasure of reading or conversing about it: and on this principle, we think that a Gardener's Magazine may be an acceptable addition to the periodical works already before the public. In an art so extensively practised as gardening, and one daily undergoing so much improvement, a great many occurrences must take place worthy of being recorded, not only for the entertainment of gardening readers, but for the instruction of practitioners in the art. The use of the Gardener's Magazine, in the latter respect, cannot be better expressed than in the words of various letters which we have received on the subject since first issuing our Prospectus. "The Gardener's Magazine," say these letters, "will put Gardeners in distant parts of the country on a footing with those about the metropolis." It is not that improvements are exclusively made in the latter circle; but more are made there than anywhere else, and most of those made elsewhere are soon heard of in the metropolitan district. Besides, almost all new importations are made to London, and all new varieties of useful or ornamental productions, originated in distant parts of the country, soon find their way to the metropolis, either for the purpose of being made more generally known, or to be propagated for sale by nurserymen and market gardeners.

The London nurseries and market gardens are the first schools in the world for vegetable propagation and culture, and for acquiring a practical knowledge of botany. The knowledge acquired in these schools will not alone fit a gardener for undertaking the charge of a private gentleman's garden in the country; but unless a private gentleman's gardener has been properly initiated in this species of elementary knowledge, though he may know the common routine for supplying a family with fruits and vegetables, yet, he will be unfit to be entrusted with new or with rare plants, and incapable of keeping pace with the progress of his art. As a recent and very considerable accession to the advantages of the metropolis, we may add that great centre of intercourse and emporium of novelties, the London Horticultural Society, and its extensive garden. The impulse which this Society has given to horticultural improvement in Britain, is truly astonishing; and even on the continent, and in America, similar societies have sprung up in imitation of it, and for the same objects. In the gardens of this Society many new plants have been already introduced; and this garden affords one of the best chances of settling the nomenclature of edible fruits and culinary vegetables, respecting which, at present, there is great uncertainty and confusion.

The general practice of gardeners and their employers confirms this view of the importance of the metropolitan district. When a gardener is in want of a situation, or a gentleman in search of a capital gardener, both apply to a London nurseryman: inferior situations may be filled up from provincial nurseries, but first-rate gardeners for every part of the empire are obtained from London. A first-rate gardener in *place*, in a distant province, would soon cease to be such, unless he paid frequent visits to those nurseries for improvement. In this respect, a gardener who does not stay longer than six or seven years in one situation has a great advantage over him who remains double or treble that time; for before he acquires a new situation, he goes to his patron nurseryman, and works under him till a suitable one occur. During this time, he brings forward his stock of knowledge of new plants and of new modes of culture to the present standard, and goes to his place a first-rate gardener as before. Another gardener, remotely situated, who remains in the same situation for twenty years, can scarcely avoid during that time falling greatly behind in the knowledge of modern improvements. Supposing him to leave his situation and go to work in a London nursery, he would be astonished at the number of new plants introduced; at the abundance and cheapness of such as were rare when he was formerly there; at the number of new varieties of fruits, of which he had not before even heard the names; at new modes of propagation for rare plants, and new modes of culture for common crops. This has been the case at all times, but it is more particularly so at present, when the progress of horticultural improvement is rapid beyond all former precedent. There seems, as we have before observed, no means so likely to put gardeners residing at a distance on a footing with those round the metropolis, as the circulation of a Gardener's Magazine and Register, recording every thing new as it occurs, and open to the communications both of practical and of theoretical men. By means of such a work all gardeners whose previous information and habits are such, that they can derive advantage from reading, will be enabled to keep up their stock of knowledge to the full standard of value. Those who cannot or will not read, never have been, nor ever can be, first-rate gardeners.

While the Gardener's Magazine is improving the knowledge of gardeners, it will at the same time extend the sources of enjoyment to be procured from a garden. Many gentlemen in the country, who have not paid any attention to gardening themselves, and whose worthy and industrious gardener has, perhaps, gone on in the same track for twenty or thirty years, have little idea of the variety of productions which their gardens are calculated to afford at, perhaps, little or not more expence than is at present incurred. We pass over the modern improvements in the forcing department, merely observing, that there is no garden where cucumbers and melons are grown which might not with little or no increase of stable-dung grow pine apples. A number of kitchen gardens in the country are worn out with age and cropping; the fruit-trees against the walls have ceased to bear freely: the walls are dilapidated by the alternate driving and drawing of nails for perhaps half a century; and the soil is every where exhausted. The proprietor submits to the privations necessarily incurred under these circumstances, and gradually becomes habituated to them, thinking, perhaps, that there is no remedy but an entire new garden on a new site. But the expence of so formidable a change may sometimes be saved by the exercise of a little knowledge. If the situation and the subsoil be good, the surface soil may be wholly or partially renewed; and brick walls will last for ages by jointing them and washing them over with Roman cement. Old fruit trees, if not too deeply planted, may be headed down, or re-grafted, or they may be totally removed and replaced by young trees.

There are few things relating to kitchen-gardening in which there is greater room for improvement than in the selection of fruit-trees. A number of the fruits grown in almost every garden are of very inferior flavour, arising from the sorts originally selected either not having been good, or from the plants supplied not having proved true to their names. A great many excellent sorts of hardy fruits have been originated or imported, within the last twenty years. Few of these sorts are generally known in the country, and, consequently, are seldom enquired for, either for the purpose of planting new gardens, or of improving such as are already established. The idea is, indeed, too general, that when once a garden is planted it is completed; but a gardener, anxious to make the most of his garden, will be continually introducing new and better sorts of the articles which he cultivates, and eradicating such as are of inferior quality to make room for those of a superior description.

The same style of remark is applicable to ornamental trees and shrubs. A great many new sorts of these have been introduced within the present century; and a number of those formerly in the country, which were considered tender, and requiring the protection of a wall or of glass, have been found to be quite hardy and fit for the open lawn or shrubbery. Still less is known in distant provinces of these trees and shrubs than of new fruits and culinary vegetables. There is scarcely any of them to be seen in the country nurseries, so that a proprietor of a garden has little chance of hearing of them, either through his gardener or his nursery-man. The deficiency of ornamental trees, in even the best Scotch nurseries, is astonishing, when we consider the eminence of Scotland in gardening: as a result, we find the pleasure grounds of the north much less rich in variety than those of the south.

The importance of adding to our stock of hardy trees and shrubs, seems to be less generally felt than it ought to be. Tender exotics, requiring the protection of glass, must ever be of comparatively limited culture and imperfect developement; but trees and shrubs, which will grow in our parks and pleasure grounds, may be planted by all, and enjoyed by all: an increase of these would add a charm to the woodland scenery of the country, which would be felt alike by private owners and the public. The introduction of a new hardy tree or a shrub, or the acclimating of one hitherto supposed too tender for the open air, may, therefore, be considered as among the most patriotic of gardening efforts. But we have said enough to show the necessity of disseminating a knowledge of the improvements daily making in gardening, as an art of culture.

To the improvement of gardening, as an art of design and taste, we intend in this Magazine to pay particular attention, and the more so as that department does not seem to be included in the objects of the London and the Caledonian Horticultural Societies: the published transactions of these bodies being exclusively devoted to vegetable propagation and culture. Our Magazine will embrace both departments of the art; and while we have the satisfaction of co-operating with the horticultural societies, by disseminating among practical gardeners the knowledge contained in their valuable publications, we will have the additional gratification of directing the proprietors of country residences to a species of elegant improvement, the taste for which at present is very generally dormant.

It seems to be now almost forgotten that England first set the example in this branch of art; and that landscape gardening, about a century ago, was as much the fashion as horticulture is at present. Since the beginning of the present century, and even before, this taste has been on the decline; having given way, first, to war and agriculture, and since the return of peace to horticulture.

But landscape gardening has created, in Britain, parks and pleasure grounds unequalled in any other part of the world. These remain as examples of what might still be done; but in laying out new, or improving old residences, there seems to be a great want, either of industry or ability to profit from them. There are, no doubt, exceptions; but there is not a tithe of the country seats which have been laid out within the last thirty years that do not owe their beauty more to the climate and the architect than to the disposition of the woody scenery. Very few country gentlemen have a just feeling for what painters call general effect: breadth of light and shade: connection and grouping of parts; the importance of which is so ably illustrated by Girardin, Price, and other authors. Many, with every desire to excel, consider that when they have engaged a first-rate gardener, he will do every thing required in laying out or improving a place. But the sort of knowledge required for the disposition of scenery is very different from that requisite for the culture and management of a garden; and a gardener can no more be expected to possess it, than a mason or a carpenter the science and taste of the architect. A very good test of the taste, of any one in either art, is a facility in sketching general scenery. We never yet knew an architect, justly entitled to the character of eminent, who could only draw geometrical elevations; nor a landscape gardener deserving of the name, who could only convey his ideas by maps and ground plans. We have indeed known men in both professions extensively employed who could not sketch scenery: but look at their works! We do not say that every man who can scketch is qualified to become an architect, or a landscape gardener; on the contrary, to compose a design in either art, that can be carried into execution, the one must possess a knowledge of the strength of building materials, and the other of ground, of plants, and other garden articles, and of the art of gardening; but we cannot conceive how any person who has not practised sketching from nature, can acquire that habit of foretelling the effect of objects in perspective, and that taste for grouping, connection, and unity of effect, without which an architect or a landscape gardener is good for nothing. We are borne out in this opinion by the best authorities.

The modern art of laying out grounds is, indeed, considered by many as an anomalous business, practised by a set of empirics without principles: but the truth is, as Wheatly, Girardin, the two Masons, Price, Knight, Dugald Stewart, and especially Mr. Alison have shown, its principles as an art of imagination are those of painting, and as an art contributing to the convenience and comfort of man, it is directed by those of fitness and utility. The principles of architecture are precisely the same; indeed the principles of composition are the same in all the arts of taste; and whether an artist compose a poem, a piece of music, a building, a painted or a real landscape, he is alike guided by unity of expression as to the whole or general effect, and by the connection and co-operation of the component parts.

It has been objected to landscape gardeners that no two of them agree about the mode of laying out a plan, or the beauties of a verdant scene: but, it may be asked, do two of any other art accord in any thing but on certain fixed or received principles? Will two architects agree in their plans for repairing a house? Or two physicians in prescribing for a patient? It is enough if scientific men and artists agree in the fundamental principles of their art. If two architects are agreed as to the strength and durability of materials; the quantity of accommodation required for particular classes of society, or particular purposes of occupation, and the general principles of composition, as applied to the materials they work with; they may differ as to the kind of beauty of the edifice which they design, but each will produce a beautiful edifice. In like manner, two landscape gardeners, equally instructed in their art, might give different plans for laying out the same ground, but both plans would, nevertheless, be beautiful, though neither of them might be suited to the ideas of a third person. Principles that admit of a great variety of application will always display great diversity of taste in the productions created from them. A symmetrical building, in which all the parts on one side have corresponding parts on the other, is understood by, and gives satisfaction to the most ordinary observer: there is an obvious reason for every thing, for there is but one principle of guidance, symmetry: but, in an irregular edifice, the harmony of the parts is not so soon perceived; there seems no particular reason why they should not have been fewer or more numerous, larger or smaller, farther apart or nearer, or differently disposed relatively to one another. To perceive the beauties of such an edifice, the mind must have undergone a certain degree of instruction in the principles of composition. Without this instruction, or with it to a limited extent, it is easy to conceive how great must be the difference of opinion as to the beauty of objects designed upon any but the very lowest principles of art. Hence the great variety of opinions as to the beauties produced by modern landscape gardening, the principles of composition of which admit of infinite variety of application in order to imitate nature; compared with the general approbation of the antient style of laying out grounds, the principles of which were those of regularity or formality, in order to produce works easily recognised as artificial.

That a gardener should at once excel in landscape gardening and in gardening as an art of culture, we consider impossible: it is sufficient if he excel in one department; for the continued personal attention required for each, is such as to preclude all hope of excelling in both. No gardener, however, ought to be limited in his knowledge to one department; for even a moderate knowledge of landscape gardening will be of use to the garden cultivator; and a landscape gardener without a knowledge of plant culture could never direct the execution of his plans. This knowledge we hope our Magazine will eventually increase; and, at all events, we hope to rouse the landed proprietors to a sense of the beauties of this department of gardening.

While devoting our attention to the advancement of gardening and gardeners, we hope not to forget the horticultural comforts of the poor. We shall endeavour to promote a taste for the art among country labourers, and to draw the attention of every cottager who has a garden, to the profit and enjoyment which he may derive from its improved cultivation. We shall be the more attentive to this subject, as we think that it, no less than landscape-gardening, has been rather overlooked by our horticultural societies.

Agriculture is so intimately connected with garden culture, that no publication on the one art can wholly separate itself from the other. In this Magazine we will avoid the business of farming, and all discussions on political agriculture, tithes, prices, markets, &c. These subjects have long been conducted in a manner productive of the most beneficial results in the Farmer's Magazine, and in different agricultural newspapers. The introduction of agriculture in the Gardener's Magazine will be limited, in general, to such improvements as are made on a proprietor's demesne, and to the reviews of such agricultural publications as chiefly concern bailiffs and land-stewards, the beneficial direction of rural expenditure, and the general improvement of territorial property, by planting, draining, road-making, &c. Improvements in domestic economy and rural architecture, will, also, come in for a subordinate share of attention, especially such as tend to the amelioration of the operative classes of society.

Finally, there is one subject which, more than every thing else, will tend to improve gardening and agriculture,—the better education of gardeners and agronomes. A man may cultivate a common kitchen-garden, or a small farm, with very little knowledge besides that which he may acquire in being brought up to these occupations. Mr. Knight had a man who could grow pine-apples "without knowing a letter or a figure;" but to fit gardeners for the extent and variety of their duties in first-rate situations, a scholastic education superior to that, which, with very few exceptions, even the best of them receive at present, is required. As gardening has advanced, as its productions and its province have extended, the situation of head gardener has become more and more important; he has become a more confidential servant; he is entrusted with more power, and is more frequently consulted by the master and mistress of the family, with whom his communications are more frequent than they used to be. It is highly necessary, therefore, that an improvement should take place in the elementary education of those intended for head-gardeners; and as most gardeners are the sons of gardeners, we shall consider it a part of our duty to impress on the minds of the parents, the necessity and advantage of an education for their children considerably beyond what they themselves have received.

It is a common complaint among gardeners, that they are not sufficiently paid, and that a man who knows little more of gardening than a common labourer, is frequently as amply remunerated as a man who has served a regular apprenticeship to his business. This is perfectly true where the gardener is nearly or equally devoid of elementary instruction with the labourer. But the remark does not apply to gardeners who have either received a tolerable scholastic education, or have made up for the defect of it afterwards by self-improvement; or if it apply to them, the blame is their own. We know from the information of some respectable nurserymen, as well as of our own knowledge, that there are a number of proprietors in this country who cannot get gardeners so well qualified as they wish, and who would gladly increase the emolument for a superior class of men. We also know that there are some noblemen who do not allow their head gardener more than the wages of a servant in livery: but this evil we trust to see reformed; for if good gardeners be not sufficiently paid, they will soon cease to be produced. If a class of superiorly educated gardeners were to come forward, they would create a demand for themselves, on the principle that demand is influenced both by the supply and the quality of the article. Besides, as to education, parents will recollect that the better their children are educated, the fitter will they be to change their profession, if they should not succeed in it, or to suffer the disappointment with patience, and make the most of it, if they cannot do better. The same remarks will apply to agronomes. We substitute the word agronome for the hateful appellation bailiff, till some of our readers shall furnish us with a better.

Having now stated at length the nature and object of the Gardener's Magazine, we proceed to lay before our readers such communications as our friends have favoured us with, hoping to render succeeding numbers more and more interesting as the circulation of the work extends, and its correspondents increase in number. We invite all those who take an interest in gardening to assist us by their advice, and by the communication of information on every subject connected with the work: we especially invite practical gardeners to come forward and support a work calculated to promote their own honour and advantage. Let them not make as excuses the being unaccustomed to write, want of style, &c. but let them fix on a subject, begin it at once, and write straight on to the end, regardless of every thing but the correctness of their statements. This done once or twice, a good style will come of itself.

PART I.

ORIGINAL COMMUNICATIONS.

Art. I. *On the present State of Gardening in Ireland, with Hints for its future Improvement.* By Mr. James Fraser, Gardener, author of a Letter to the President and Vice-President of the Horticultural Society of Ireland.

THOSE who are practically acquainted with the improvements which have been made in Horticulture for these twenty years past in Britain, and have not visited Ireland, will scarcely credit the assertion, that during this time the art in the latter country has rather retrograded than advanced; that even around Dublin, the far-famed environs of Dublin, little, comparativ ly speaking, has been done. It is a fact which cannot be denied, that the numerous wealthy absentees have tended to injure gardening upon an extensive scale, as also to retard the modern improvements. But there are still numerous resident wealthy gentlemen, fond of every elegant enjoyment, who possess, generally speaking, demesnes of greater extent than is usually to be met with in England, which, in point of variety of surface, of hill and dale, of wood and water, are far more susceptible of every rural improvement. Yet, strange to say, we still plod on in the old beaten track; wedded to the old customs, the gardener looks upon every new method introduced as an innovation on his rights; and the employer cares little for those elegancies which render a country life delightful, but feels content if the wants of the family are supplied. There is one obvious cause, however, that has contributed in no small degree to produce the evil of which we complain, namely, the employment of men as gardeners not regularly bred to the business, at a low rate of wages:—men of a very limited education, who are treated as mere indoor servants, placed on an equality with them, and hold their places on the same uncertain tenure. Under these circumstances, we do contend, that it is morally impossible for improvements on an extensive scale, or where success depends upon any degree of accuracy in their application, to be carried into effect; and it is more than reasonable to expect that gardeners not feeling an interest in their situation, will enter warmly into any thing tending to the permanent benefit of the place; they will take advantage of such crops as may be produced, without any regard to the ultimate consequences.

While on this subject, it is but fair to state that the gentry of Ireland have evinced an extraordinary degree of luke-warmness, in not coming forward to establish a horticultural society, after the noble practical examples set before them in the sister kingdoms. The society bearing the name of the horticultural society of Ireland, under the management of nurserymen and practical gardeners in the neighbourhood of Dublin, is too local in its influence to advance the art in a national point of view.

These strictures, as regard the relative situations of gardeners, and the taste of their employers, we are happy to say, are only applicable in a very general sense. There are many honorable exceptions. In the course of our observations, we shall feel great pleasure in showing that, where the proprietors have given proper encouragement, their gardens vie, in point of extent, design, and management, and their gardeners in point of respectability and intelligence in their profession, with any in the empire.

There are three botanic gardens in this country; two in Dublin, the other in Cork. The last mentioned is small in extent, and the collection of plants few, comparatively speaking. Of the two in Dublin, one belongs to the Dublin Society, the other to Trinity College. The former is the largest in the mpire, and in point of picturesque beauty is wholly unequalled. The botanic gardens in Dublin possess this advantage over those in Britain, namely, a classical arrangement of trees and shrubs. It has often occurred to us, as an extraordinary circumstance, the great attention paid in the British botanic gardens to the collecting and arranging of herbaceous plants, while the greater part of trees and shrubs have been, till of late, neglected. The Dublin Society's garden is open to the public. A course of lectures is delivered annually, which is also free, and even the young men employed in the garden are obliged to attend. This garden was not laid out and managed by the late Dr. Wade, the professor of Botany, as was generally supposed, but by the present talented superintendant, Mr. W. Underwood. Mr. Mackay, the curator of the College garden, is so well known as an indefatigable botanist, that any observation here regarding him would be quite superfluous. All these botanic gardens are ably described in the Edinburgh and Gardening Encyclopedias.

The only public grounds about Dublin are contained in the Phœnix Park, in which are also the country residences of the Lord Lieutenant, Chief and Under Secretaries, &c. This Park is very extensive, and the grounds are more elevated and contain a greater variety of surface than any of the Royal Parks in the vicinity of London. There appears to have been no general design in the disposition of the trees, if we except the alternate groups of English elm, on each side of the public road, and the trees around the residences we have just mentioned. A great many hawthorns have been irregularly scattered throughout the grounds, and during the administration of Earl Talbot several very formal groups and clumps were made without the least regard to the general ornament of the place. It is to be regretted that some professional landscape gardener was not employed in the ornamenting of this Park, for if it was judiciously planted, due advantage being taken of the numerous objects within itself, and of the endless variety of delightful scenery which surround it, assuredly there would be nothing like it in the empire.

The enclosure around the Lord Lieutenant's house is of itself a very charming little demesne, and contains several fine ornamental trees. We observed some large well formed trees of the Ulmus parvifolia, generally confounded with the common English elm, which, from the different mode of growth, form a fine contrast with the nemoralis. There are several very fine oaks to the westward of the house, where the woody character has been properly preserved. The gardens are extensive in every department, and are admirably kept by the present superintendant, Mr. Robson. There is nothing very interesting or grand about them; on the contrary, all is plain, neat, and economical. The fruit trees on the walls are well managed. We observed a beautiful variety of pyracantha against the walls of one of the little enclosures near the gardener's house, with deep scarlet haws. Mr. Robson has been in the habit of propagating in autumn, by cuttings, large quantities of the different free growing sorts of pelargoniums, hemmemerises, and heliotropes, &c. which he keeps over the winter in frames, and in spring plants out distinctly in separate beds throughout the flower garden, where they blow during the summer and autumn in great luxuriance. Having had a number of plants this year of the Cobœa scandens, he planted several of them against walls, palings, &c. and their growth was really amazing. They all fruited, and many of them are likely to ripen seed. We mention this circumstance simply to show that this plant might be used with great success in covering bowers and other rustic buildings during the summer and autumn, even should it not resist the winter months.

The gardens and demesnes of the Chief and Under Secretaries are also well worth notice. The gardens are extensive, and have been long celebrated for their excellent productions. The demesnes are neat and well wooded. Mr. Forsyth, gardener to the Chief Secretary, is well known as an excellent general horticulturist; and Mr. Wilkie, gardener to Mr. Gregory, is a highly respectable man in his profession, and a zealous amateur in every thing tending to its improvement.

In observing generally on the present state of gardening here, we have to remark that the same indifference to every improvement in horticultural buildings prevails, as in the royal gardens around London. Every new method runs its round, before it passes the centinel at the gate, and in ninety-nine cases out of a hundred it is refused admittance. The dressed grounds are upon an extensive scale, very formal, and as yet no variety of ornamental trees or shrubs have been introduced.

Not many years ago the neighbourhood of Dublin could boast of some as splendid gardens as any around London. But, alas! how are things changed. Look at Rathfarnham Castle, not a solitary instance, but one out of many, where a magnificent green house, on the same plan as those at Hampton Court and Kew, has been turned into a cow-shed, and the fine old Dutch garden is now a total ruin. In this country, whenever a gentleman's affairs render it necessary to reduce his expenditure, or his health or business calls him abroad, the first step of his agent, who is generally an attorney, or some person equally regardless of every thing but making money, is to recommend the gardener's discharge, and that the garden be either let or left to the care of some old follower; that is, one who has worked for many years about the place. This is no imaginary view; in nineteen cases out of twenty such advice is given, and as often followed. But mark the consequences:—the labourer undertakes the business, and for which he is paid the sum of ten pence per day. If, in the course of a few years, the proprietor returns home, or finds it convenient to keep his place in its former style, where are his fruit and ornamental trees, &c., the labor of a hundred years?—gone! for what? the mighty saving of a few pounds. The painter and gilder may repair any dilapidations that time may have made in the house; should even the fabrick itself have tumbled down, it can be rebuilt, but in the ordinary life of man what could reproduce the others? Every one conversant in the localities of Ireland knows well the truth of what we have here stated.

In order to obviate such irreparable consequences, we would warmly recommend to such gentlemen as from necessity or choice wish to curtail their expenditures in this department, to lay down as much of the garden and pleasure-grounds as are possible in grass, and to retain the gardener, with as much assistance as may be necessary, to keep the trees and other ornamental plants in due order. The expence in this case is ultimately a mere trifle compared to the line of proceeding we have just condemned.

Merville, the delightful villa of Lord Downes, is situated about two miles south of Dublin, and is unquestionably one of the best kept places in the empire. The garden is not of great extent, but it contains an excellent collection of fruit trees, which are kept in perfect order. The forcing houses are very complete: there is nothing particular in their formation; like the greater part of the hot-houses in this country, they are nearly the same as those delineated by Nicol in his earlier editions of the "Scotch Forcing Gardener." A range of pits for the growth of pine apples, on the plan of those so common about London and Liverpool, have been lately built, and answer well. It is to be hoped that the recent improvements effected throughout England in the growth of this incomparable fruit, by which so much time and expence are saved, will, ere long, render every gardener familiar with its culture. In the flower-garden there are two remarkably neat houses, with copper sashes and metallic rafters; one is used as a green house, the other as a stove for plants, and they both contain an excellent collection. The parterre in front of these houses is remarkably pretty, and here, in the proper season, may be seen the best collection of spring-flowers in the kingdom. The figures in the parterre are, in our opinion, rather formal. We hope ere long to see the stiff geometrical figures which have so long held a place in the flower garden entirely exploded, and fancy, aided by correct taste, have its flight in this department of gardening. The kaleidoscope exhibits many figures which will greatly assist the imagination in matters of this kind. Detached from the garden, there is a small American ground, where are the best private collection of bog plants we know of in the vicinity of Dublin. They are judiciously planted and in great health.

Dublin, 28*th October*, 1825.

(*To be continued.*)

ART. II. *Upon the Method of setting the Fruit of the Granadilla.* By an AMATEUR.

THE granadilla, or, as it is called by the South American Spaniards, Purchas, is a well known West Indian fruit, produced by various kinds of passiflora, especially by P. quadrangularis, maliformis, and laurifolia, and also by a species now common in our stoves, called Passiflora edulis. It varies in size and external appearance according to the particular species by which it is borne, but is in all cases a sort of gourdlike apple, filled with seeds enveloped in a copious pulp, of a most agreeable, subacid flavour. The great merit of this latter substance, as a luxury for the dessert, has induced many individuals to attempt the cultivation of the plants in their stoves; and not without success. The fruit of the P. edulis is produced in abundance, without any particular treatment of the blossoms, but it is inferior to that of either of the three other kinds. Those known do not bear produce in sufficient abundance to make their cultivation worth attention, except under a particular management of their flowers, which, as it is, I believe, very little known, I will endeavour to explain, as it is practised in the stove of a gentleman in this neighbourhood.

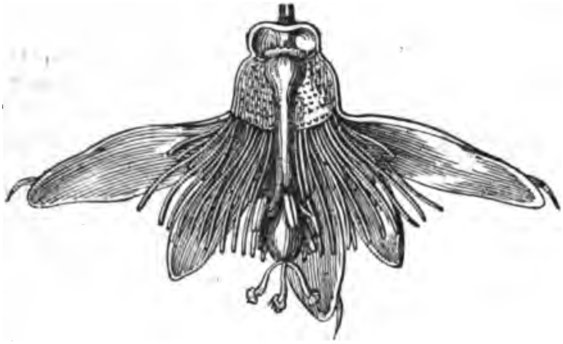
It is well known that the beauty of the flower of the common passion-flower depends upon the variously-coloured little threads which are symmetrically arranged around its centre, so as to exhibit the appearance of rays; these rays proceed from a fleshy cup, inside of which are also some other processes which project from the side of the cup towards the centre, and from a cavity capable of holding a considerable quantity of moisture. From the base of this cavity rises up an erect solid stalk, upon the top of which, above the stamens, is placed a little green ball, surmounted by three styles, which ball afterwards becomes the fruit. Now, in a hot climate, when the breezes are constantly playing among the foliage, and when the necessary moisture for the subsistence of the plant is supplied by the dews and a humid atmosphere only, no inconvenience arises from the complicated arrangement by which nature has distinguished the flower of the granadilla genus from that of all others. But in a stove, in an artificial state, where ventilation is necessarily very imperfect, and where the flowers are subject to be dashed with the spray or the direct effusion of the water-engine, a different event takes place. The fleshy filamentous rays, which, in the tropics become withered up, and quickly perish, are kept, by the circumstances just alluded to, in an unnaturally damp state, and, becoming.

rotten, collapse, and either fill the cavity described to exist at the bottom of the stalk of the fruit, with a preternatural collection of putrid water, which quickly causes the stalk to decay at its base, and, consequently, the young fruit to fall off long before it even approaches maturity, or which, when the remains of the flower become pendulous, keeps the young fruit and its support so damp as to produce the same effects. But if, with a pair of very sharp scissors, the whole of the fleshy rays are remooved after the flower is fecundated, all this inconvenience is avoided, and, in most cases, the fruit will swell and arrive at maturity, especially if a little pollen be applied to the stigmas, with a feather or a bit of any soft substance.

This is a very simple contrivance, and it would seem obvious enough; but the cause of the failure in obtaining fruit being generally unknown, it is not surprising that the mode of removing the impediments to its maturation should have been also overlooked.

The figure, at the end of this communication, will serve to explain the peculiar structure which I have attempted to point out.

Those who may desire to find a detailed account of the various kinds of granadillas, will do well to consult the Horticultural Society's Transactions, vol. iii. p. 99., where there is an excellent account of them, by Joseph Sabine, Esq., the Secretary.



Art. III. *Remarks on the Effect of the Lombardy Poplar in Park Scenery.* By Mr. John Thompson, Landsurveyor and Pictorial Draughtsman.

The Lombardy poplar is a tree, which, as applied to the science of arboriculture, is capable of producing not only the most noble and striking, but the greatest variety of effect; and perhaps, there is no tree which has the misfortune to be in general so injudiciously planted. I have, therefore, sent you a few remarks founded upon the study of landscape composition, in which I do not intend to say any thing of the bad or good qualities of the poplar, but merely to consider it as a tall conical mass of foliage, which becomes of great import, when contrasted with the more useful and valuable round headed trees.

First then, it is a known pictorial rule, that all horizontal lines should be balanced and supported by perpendicular ones; — thus, the effect of a bridge or via-duct would be greatly increased by the assistance of poplars.

In the accompanying sketch, (*fig.* 1.) not only the lines of the bridge are balanced and supported by the upright poplars, but lengthened and pleasing reflections are produced, which breaking the horizontal gleams on the water, continue a mass of lines intersecting each other at right angles, than which effect, nothing can be more simply grand and classical. This is admirably illustrated at Blenheim, where the poplar is an accompaniment of all the bridges, but more particularly at that via-duct, where the water first enters the park; this seen from the neighbourhood of the great bridge, forms a landscape of much beauty and purity. But the planting of the island is as much at variance with good taste: it is covered with tall poplars, forming a mass which seems too big for its base; and which mass, from its stiff and upright form, contrasts but badly with the varied outline of the surrounding wood and water. How much more agreeable it would have been to

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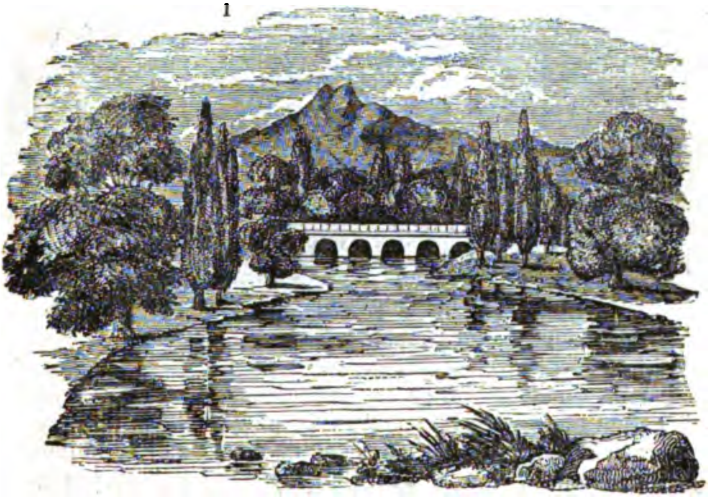

have looked down from the bridge on a well-selected group of round headed trees.

The poplar, therefore, would be advantageously planted wherever there is a continuance of horizontal lines; but they should be so arranged as to form a part of those lines, to seem to grow out of them, rather than to break or contrast with them in too abrupt a manner. In the case of a stable or other agricultural building, where the principal mass extends in length rather than in height, (*fig.* 2.), it would be wrong to plant them exactly before it (*a*), but they should be at the sides or behind. The poplar is very generally planted before the cottages and residences, which are to be found on the roads a few miles from the metropolis; and as forming a part of those residences nothing can be worse; you may see six or eight poplars taller than the house, obstructing its view, and overpowering and diminishing it by their magnitude and stiffness, when a few low trees mixed with laburnams, lilacs, &c., would be so much more to the purpose, — not but the poplars are well calculated to produce good effect as a whole, when the road is seen in perspective; but it is not to be supposed that general effect and public ornament has been studied by individuals. The poplar should also appear in all plantations and belts that are made with a view to picturesque effect, (*fig.* 3.), but more particularly, they should be introduced in a sparing but judicious manner in all pleasure-grounds; and they are quite in-

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dispensable in the formation of such groups as are intended to convey an impression of that grand and classical simplicity, which is, or should be, the first object in all ornamental planting. Another sketch, (*fig.* 4. *a*, *b*.) will be the shortest way

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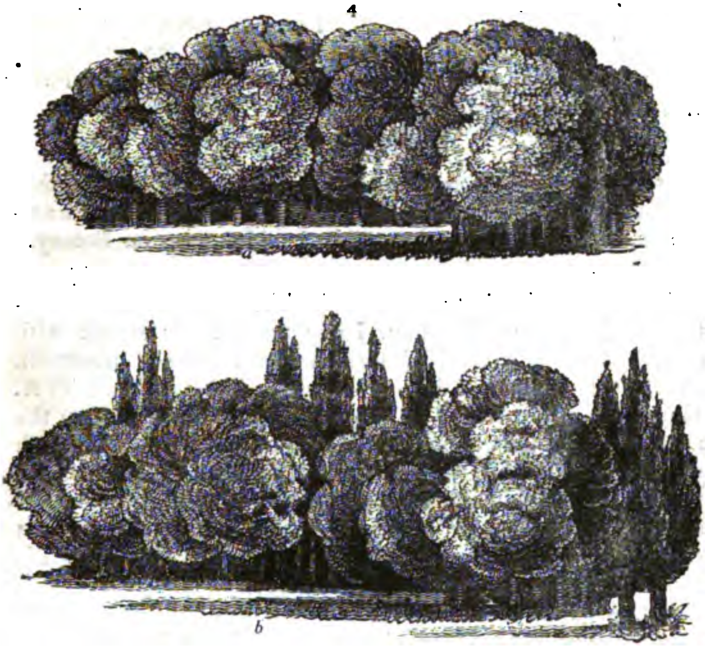


of showing the assistance which the poplars give to a group of trees. Here, though the mass (*a*) might be seen to advantage in some situations, when grouping with other objects, it is, when contemplated merely by itself, quite uninteresting from its dull and monotonous appearance; but add the poplars, as in (*b*) and you immediately create an interest, and give a certain character to the group which it did not before possess. The causes are these: the poplars being taller than the other trees, and terminating in a point, serve to carry off the group into the sky, or whatever may be behind it; and their pointed heads form a pleasing contrast to the round heads, and break the too uniform line exhibited in the round-headed group (*a*). Then their branches rising stiffly upwards, contrast with and render more graceful the pendent ones; and their stems being taller, form an agreeable variety in the lower part of the group.

Of course, there are other trees which would add considerable interest to the group under consideration, particularly those of the fir tribe, and such as are of a light and pendent nature; but my object has been to consider the lombardy poplar under the least advantageous circumstances, and to show its value and importance in breaking the monotony of most plantations Its combination with other trees, and remarks on them individually, may become the subject of some future paper.

I am, dear Sir,
Yours, &c.
JOHN THOMPSON.

No. 1. Wellington Street,
Waterloo Bridge, Strand.

ART. IV. *Observations on an Hypothesis concerning the Effects of Green Vegetable Manure.* By ANTHONY TODD THOMSON, M. D. F. L. S., &c. Author of Lectures on Botany.

Dear Sir,

IN perusing the first volume of the Transactions of the Horticultural Society of London, I was particularly struck with an hypothesis advanced by a gentleman, to whose labours in Phytology the world is very largely indebted, Mr. T. A. Knight, in a paper read by him before that society, "on the advantage of employing vegetable matter, as manure, in a fresh state." The hypothesis referred to, assumes as a principle, that plants thrive better on a soil manured with green-vegetable matter, because "many vegetable substances are best calculated to re-assume the organic, living state, when they are least changed and decomposed by putrefaction."

The grounds on which Mr. Knight has raised this hypothesis are two, well-contrived experiments. In the first, the seeds of the Plum vegetated, with uncommon rapidity, in pots nearly filled with the fresh leaves and roots of grasses: in the second, which was a more extended and an admirable comparative experiment, turnips sowed on different portions of the same field, differently manured, grew more vigorously in proportion as the manure approached to the state of fresh-vegetable matter. Thus, the crop was very forward and luxuriant on a portion of the field on which green Fern had been employed as manure; less so on another portion on which fold and stable manure had been used; and least forward on a third portion, the manure of which was completely decayed dung. The inferences drawn from these experiments, are endeavoured to be further supported by Mr. Knight, by an imaginary analogy between the assimilating functions of plants and those of carnivorous animals, "who," he observes, "receive more nutriment from the flesh of other animals, when they obtain it most nearly in the state in which it exists as part of a living body."

Without referring to the analogy, which could be easily proved to be incorrect, and a weak and inefficient prop to the argument, I think I shall have little difficulty in convincing you and the public, that the comparative experiment, although it was apparently conclusive, yet, was incomplete and unsatisfactory; inasmuch as no use appears to have been made of the thermometer, for ascertaining the comparative degree of heat of the soil, in the portions of the field when manured in the manner already described, both when the turnip seed was sown, and at different periods of the growth of the plants. To this neglect, I conceive may be attributed the fallacy of the conclusions, which have been deduced from so well planned an experiment.

I am aware that, in opposing the opinions of so truly philosophical an enquirer into vegetable physiology as Mr. Knight is, I expose myself to the hazard of being stigmatized with presumption; but, I am also convinced, that as truth alone is the object of that gentleman's researches, he will receive with candour any objections to his opinions which are fairly advanced. I have, therefore, no hesitation in asserting, that before we can admit the correctness of the opinion, which assumes that the superiority of the crop, on the portion of the field manured with the green fern, was owing to the more easy re-organization of the recent vegetable matter employed as manure, by the living powers of the growing plants, the author of it is bound to demonstrate how any vegetable substance contained in the soil, in a state not reduced to its ultimate components, can be taken up by the absorbents of the radicles of plants; and, also, how any vegetable substance, without being so reduced, can be rendered sufficiently soluble in the soil to enter the mouths of these minute vessels? I am willing to admit that the secretions of some plants are altered by situation, and the nature of the soil in which they grow: as for example, in the change from potash to soda, which occurs in plants brought from inland situations and cultivated near the sea. But, it must be remarked, that these changes are found to occur in the saline secretions only, which are remarkably soluble. Linnæus, indeed, maintained, that the secretions of plants very different from one another in genera and species, growing on the same soil, exist ready prepared in the earth, and are merely selected by the plants: but this opinion has been long since regarded as untenable. The living powers of both animals and plants seem to be perfectly adapted for recombining substances the most opposite and incongruous, and assimilating them to their own proper nature. What can be stronger proofs of this fact, than that the Cobra de Capelho secretes the poison which is found under its fang, from aliment which is not essentially different from that employed by the most innocuous of the serpent tribe; and that fruit, which is sweet, palatable, and nutritious, is the product of the same soil as the most bitter, nauseous, and poisonous plants? or that, in the same animal and plant, secretions are found possessed of properties almost diametrically opposite? It is a fact, well known to physiologists, that chyle, the substance produced by the change which the food undergoes, before it mingles with the blood, has no analogy with the character of the food from which it is formed, but derives its peculiar properties from the action of the glands of the mesentery by which it is prepared. Whether this be the case with the sap of plants, which may be regarded as the chyle of vegetables, we shall never, perhaps, be able to ascertain, owing to the impossibility of obtaining it unmixed with some of the ready formed secretions, previously deposited in or near the root of the plant; but, from the known characters of sap, as it has been procured, we know that it varies much less in different plants than we might *à priori* expect, on viewing the great diversity of their secretions. That it is not, therefore, requisite for the vigorous growth of plants to manure the soil with fresh-vegetable matter, in order to enable the plants to obtain their food in a state the least changed, and decomposed by putrefaction, is obvious; but it must, at the same time, be admitted, that fresh-vegetable matter employed as manure is admirably adapted to advance vegetation; and the following appears to me to be the true explanation of this fact, and the cause of the great superiority of the crop, on the portion of the field manured with the green Fern alluded to in Mr. Knight's experiment.

One of the most striking, and the most universally known, of the phenomena of the process of fermentation, is the extrication of heat; and this principle, also, is the most powerful and healthful stimulus of the vegetable excitability, when it is not applied in excess. Now, the disposition of green or recent vegetable matter to run into rapid fermentation is well known; and it is easy to conceive, that matter of this description, placed under the soil so as to retain a considerable degree of moisture, is in a situation the most favourable for commencing and carrying on the process of fermentation; thence, the more recent the vegetable substance, the sooner will the extrication of heat commence, and the longer will it be given out. The surrounding soil, also, not being of a combustible nature, and not a very good conductor of caloric, the heat will spread in a more equable degree; while, the rapidity of the fermentation will be so moderated, as to prevent the pabulum of the process, if I may so express myself, from being too soon exhausted. Owing to this state of the green Fern, therefore, the germination of the turnip seed sown over it was begun, and the vegetative process carried on in the plants, in a manner somewhat similar to the effect which would follow were the seed sown in a hot-bed; except that the heat was of a more moderate degree, and, consequently, better suited to maintain the functions of the vegetable economy in the growing plant in a healthy state. The fold and stable manure, on account of the ready formed salts it contained, would, perhaps, promote the germination of the seed and the growth of the plants more vigorously for a short time; but as the process of fermentation would be sooner completed in it than in the green Fern, the supply of heat to the soil would be sooner exhausted, and consequently, that necessary stimulus being withdrawn from the growing turnips on the portion of the field manured with it, the plants over the green Fern would now gain the ascendancy, as they were still supplied with heat; the process of decomposition being yet in activity in the Fern. Again, as the fermentation was altogether over in the completely decayed dung, no heat, or scarcely any, would be extricated from it, and, therefore, the sole benefit which could arise to the germinating seeds and growing plants from this manure, must have proceeded merely from the stimulus of its saline components, and from the carbonaceous matter in a soluble state, which it is adapted to afford. It may be argued, that, as it is probable, the soluble carbonaceous matter afforded by completely decayed dung is the chief part of the food of plants, the turnips raised over this manure should contain more solid contents than those over the other manures, although their growth was less vigorous and luxuriant. That, however, more food is supplied by completely decayed manure, and yet less taken into the system of the plant, may be equally true; for the heat afforded by the more recent manures being absent, the action of the vegetable vessels in the growing turnips would be more languid, and absorption and assimilation consequently less perfect; the presence of the stimulus of heat being as essential as the simple supply of nutriment, for the perfection of the plant. That it is heat only which can be regarded as the agent producing the superiority of the crop of turnips, on the portion of the field manured with green Fern, as detailed in Mr. Knight's experiment, may easily be proved by the thermometer, in a repetition of the experiments. Why, therefore, Mr. Knight may say, has the objector to my explanation not maintained the truth of his objections by experiments with that instrument. I reply that, in the first place, my residence in town and my professional avocations, oppose themselves to any experimental attempt of the kind; and, in the second place, that any experiments on my part are unnecessary, as I admit the accuracy of Mr. Knight's experiments, and differ from him only in the conclusions which he has deduced from them. Our premises are the same, but our conclusions are at variance, and, it must remain with others to decide which are the most accurate, and as the discovery of truth is the object of both, the determination will be equally acceptable, whatever may be the decision.

In the supposition that my opinions of the effects of these manures are correct, it would appear, that the most useful manure may be obtained from a mixture of *completely decayed stable* or *fold litter*, and *green* or *fresh vegetable matter*; or perhaps no manure would be more efficient than *green vegetable matter* spread under the soil, and a top dressing of *salt* and *soot*. The completely decayed manure would produce its effect by affording soluble carbonaceous matter and salts as food and stimuli to the growing plants, whilst the heat extricated by the fermentation of the green-vegetable manure, would supply a sufficiency of that principle which, in conjunction with air and moisture, is absolutely necessary for rousing into activity the vital energies latent in the seed, and maintaining in the future plant the proper exercise of those functions, which enable it to select and absorb its nutriment from the soil, to carry it through its system of vessels and glands; to concoct and secrete, from it, its proper juices; and finally to assimilate it into its own peculiar living substance.

I remain, Dear Sir,
Yours faithfully,
ANTHONY TODD THOMSON.

91. *Sloane Street,*
30th November, 1825.

ART. V. *On the Life of a Jobbing Gardener.* By Mr. ARCHIBALD M'NAUGHTON, of Hackney.

Sir, *Hackney*, *29th Nov.* 1825.

I AM very glad to see your proposal for a Gardener's Magazine, for I have long thought that the gardeners should have an organ to represent them and instruct them, as well as the farmers and mechanics. I have been upwards of fifty years in the line, and was one of the first who set agoing the London Gardeners' Lodge, described in your Encyclopædia, though I have long since left it, from not being satisfied with its management. I left Edinburgh in the year 1777, and, after working some time in Mr. Christopher Gray's nursery at Fulham, I got a very good place with a Mr. Rolls, a great stockbroker, whose affairs went wrong after I had been six years with him, and I was obliged to quit. After going down to Scotland to see my friends, I came up again and got a place from Mr. Hare, then a seedsman in St. James's Street, to go to Mrs. Wilson at Putney, where I remained till her daughter married, when her husband having an aversion to Scotch servants, I was obliged to leave. Soon after this, a fellow-workman and myself attempted to set up a small nursery at Epsom, part of which is now occupied by Mr. Young of that place; but, after struggling hard for little more than two years, we were obliged to give up, after losing all we had saved, and about 50*l.*, which my partner had borrowed from his aunt at Kinross, and which preyed so upon his mind, that I verily believe it was the cause of his death, which happened about a year afterwards at Windsor; where he got into a small place to look after a garden, and some fields in which vegetables were grown for sale.

Not liking to go into servitude again, I began jobbing on my own account, and a poor business I have found it ever since. When I first began, the highest wages I could get were 3*s.* a day, and obliged to find my own tools. I had a good deal of employment at first, partly from the circumstance of being a Scotchman, being called by the people who employ jobbers, a professed gardener. My wife also took up a green-grocer's shop about this time, and we did very well till we lost our only daughter, which obliged us to take in a maid-servant, who let in some fellows into the house one Sunday afternoon when we were at chapel, and took away all my savings, most of my wife's clothes, and concealed the bedding in an out-house, to be taken away no doubt at night. The maid was never seen again, and we never could hear any thing of the thieves. We now left Camberwell altogether, and both my wife and I took a situation in a small family near Hammersmith, where my wife was cook, and I had a man under me for the garden and for looking after a horse and chaise. This place did not suit, and I advertised for another, and got one in a large boarding-school, which was worse, as my wife was expected to look after the milk of two cows, and I was obliged to assist in brewing. After doing nothing for some time, I began the jobbing again at Paddington, and my wife took in washing; but she falling ill, we removed to Hackney, on account of the air, where I have been ever since, being just able to gain a livelihood, by laying out the gardens for the new buildings going on in the neighbourhood. I have often been advised to take up a public-house; but besides that my wife is against it as considering it beneath the dignity of her family, I consider that it would be degrading the profession to which I belong if I were to become a publican.

Having now, Sir, given you a short history of my life, you will see what a very poor business a gardener's is, and especially a jobbing gardener's. When I first began it, I was preferred as being considered a regular gardener; but now a labourer who has, perhaps, worked a year or two with some market-gardener is just as much employed, and as well paid as myself; it is true, I have hurt myself much by going into the jobbing line; but what led to that was my vain ambition of being a nurseryman, without having the means. I need not say any thing of the prospects of an old man near 70; my wife is dead, and if the disease which shall carry me off be a lingering one, I have no other prospect than the workhouse. If you think my letter worthy of a place in your Magazine, I hope it will be a warning to gardeners when they are in good situations to keep in them, and not let discontent or ambition prey on their minds so as to make them leave their places for little faults; and, especially, not to let them give up the condition of servitude for the very uncertain one of being in business for one's self. And, especially, let them never give up any place whatever for the condition of a jobbing gardener, for that is greater slavery than being a common labourer.

I am, Sir, your most obedient servant,

ARCHD. M'NAUGHTON.

ART. VI. *On Cultivating a Collection of Grasses in Pleasure-grounds or Flower-gardens.* By MR. GEORGE SINCLAIR, F.L.S., H. S., &c. Nurseryman, Author of Hortus Gramineus Woburnensis.

Dear Sir,

A COLLECTION of the different species of grasses arranged in a distinct compartment of the pleasure-ground or flower-garden will be found to constitute one of its most interesting features. It has been justly observed by Sir James Edward Smith in his English Flora, that the grasses afford more sustenance to man and to the larger animals than all the rest of the vegetable kingdom together; their herbage so perpetually springing, and so tenacious of life, accommodated in one instance or other to almost every climate, soil, and situation, affords to nature her most welcome clothing, and to the cultivator of the soil his chief riches. Nothing poisonous or injurious is found among them. Their farinaceous seed supplies man with the staff of life; in wheat, barley, rice, oats, maize, Holcus spicatus, Holcus cernuus, and in Poa abysinnica. The Cynosurus cristatus, which supplies a most valuable herbage for pasture, has culms too fibrous and wiry to be eaten by cattle; yet these sustain the seed of the plant until winter, and when the snow covers and conceals every other kind of food, these supply the smaller and even several of the larger birds with the means of existence.

The grasses constitute one of the most perfect natural orders of plants, and although humble, and until lately, overlooked by the general observer, consist of upwards of a thousand perfectly distinct species, distinguished from each other by their specific botanical characters, by the difference which exists in the proportions of the constituents of the nutritive matter afforded by each, by the different periods at which their produce attains to perfection, and by the peculiar soils and situations to which the different species are adapted. The observation of these habits and properties, as they present themselves in the progress of growth of the plants, will be found to afford more amusing variety, and perhaps useful and instructive occupation of time, than can be obtained from the cultivation of any other distinct family of plants whatever.

The flowers of the grasses are perfect, and are remarkable for the simplicity and elegance which pervades their whole structure; they will be found to want only examination to excite our admiration that so slender and simple a structure should be productive of such important ends, and capable of receiving upwards of a thousand clear specific shades of variation without in the least affecting its primary essential family character.

As an example of the truth and beauty of the natural orders of plants, the grasses afford the best illustration to the young botanist.

In the botanical investigation of the different species, a high interest is kept up from a consideration of the various properties and separate habits peculiar to each individual species, yet all tending to one great and important end—the support of animal life; from the moth which lives on the Way bennet (*Hordeum murinum*) to man himself, who, from many species, draws support directly, and, in remote consequences, from the whole tribe. *Park* in his travels, (Vol. i.

pp. 63—75.), informs us that the Holcus spicatus and Holcus cernuus were cultivated largely in Africa by the natives, for the like purposes as wheat and barley are in Europe. The *Poa abyssinica* has a very small seed, and yet, as Bruce informs us, it is cultivated extensively in Abyssinia for the manufacture of bread, (teff.) The annual species of grass have larger and heavier seeds than those which are perennial, and the creeping rooted species have lighter, and in general, less fertile seeds than the fibrous rooted. The creeping roots of the common couch grass (*Triticum repens*) contain a large quantity of nutritive matter; in its composition or properties approaching nearer to that of corn, than the nutritive matter afforded by the herbage of any of the other grasses. On the continent, particularly at Naples, these roots are regularly sent to market, and are there highly esteemed for the food of horses. The writer of this had some of these roots for examination sent from Naples, they proved to contain more nutritive matter than the roots of English growth. Dogs eat the leaves of this species of grass as well as those of the Holcus avenaceus, to excite vomiting.

The farinaceous seeds of the annual grasses supply man with the staff of life, and the herbage of the perennial species afford to the more valuable domestic animals, that constant supply of essential food without which they could not exist in any considerable number, or for any length of time, much less be brought to furnish us with the most important articles of clothing, and some of the most important parts of food; meat, milk, butter, and cheese; wool, and leather, with all the concomitant advantages, such as labour, manure, &c. which result to the cultivator of the soil from the use of cattle, would be lost without the cultivation of the perennial grasses.

The nutritive powers of the different species of pasture or hay grasses are found to be in direct proportion to the quantity of saccharine, mucilaginous, albuminous, bitter extractive and saline matters which each affords.

Not two species of grasses are found to agree in the proportions of these vegetable principles contained in each; as instances, the Elymus arenarius affords the largest proportion of sugar, the Poa compressa, *var. erecta*, consists almost of pure mucilage, and the Festuca pennata, or Holcus avenaceus, &c., a greater proportion of bitter, extractive, and saline matters.

There are but few species which attain their height of produce at the same period of the season, consequently, scarcely a month occurs which is not the season of some particular species attaining its perfection of growth: and here, it may be observed, that a grass-garden, where a number of different species of grasses are arranged side by side, illustrates this important point in the economy of the grasses in a clear and interesting manner. It is from this property of the natural grasses, connected with a combination of a considerable number of different species, which are always found in the most rich or fattening pastures, that the great superiority of these over artificial pastures, or of such as are formed of one or two species only, chiefly arises; and hence it is that the former, whether formed by nature in the course of many years, or by art in one, (by sowing the seeds of all the essential species, or by stocking the soil at once with a sufficiency of these plants, precluding thereby the introduction of spurious grasses or weeds,) are productive of a perpetual verdure and supply of fresh herbage unknown in artificial pastures, consisting of one or two species of plants only.

(To be continued.)

ART. VII. *Of the best Mode of Washing Water Cresses and other Salads so as to free them from the Larvæ of Insects, and Worms.* By MR. JAMES SIMSON, Gardener, Musselburgh, near Edinburgh.

SIR,

I RECEIVED your letter with a prospectus of the Gardener's Magazine, which work I think will be very useful to us here, who know little of what is going on in the gardens about London. I am sorry you did not mention some subject that you wanted me to write about, as I do not know what to fix on; however, as you say you must have all your papers for the first number by the end of this month, the only thing I can think of is to send you some remarks on the water cresses, and other winter salads, such as brooklime, scurvy grass, American cress, &c.

I understand there has been something written on the culture of the water cress in the transactions of the London Horticultural Society. I have not seen these transactions, though my master got me to cultivate the cress in consequence of somebody's telling him how it was described in them. We grow them in a small pond behind the melon ground in the slip, and only round the margin of the pond; but what I have principally to communicate does not concern the growing but the gathering. After these cresses had been served up to breakfast for several weeks, it happened one morning that a young lady who was on a visit from Edinburgh, observed something clear and glutinous, like small snails, fixed on the backs of the leaves of the cresses; some said they were young water snails; others that they were young horse leaches, and some took them for the eggs of worms. However that may be, the whole family were disgusted with them, and it was ordered that no more should be brought to table than what were gathered in a running stream. Some days afterwards, I collected some from the tail-dam of Lasswade mill; but on inspecting them it was found that there was also a white gelatinous substance that would not come off with common washing, attached to the back of some of the leaves. There was now a good deal of alarm, especially as a young woman who worked in the garden, and had been in the habit of serving the kitchen and gathering the cresses, was troubled with a swelling in her stomach, accompanied with occasional loathing of food. This alarm perhaps would not have taken place, had not a poor woman in the village about a year ago, after being ill for a long time with a stomach complaint, at last one morning vomited up a small bag of caterpillars, which are supposed to have hatched in her stomach from eggs, attached to some vegetable that she had eaten. It now became a serious matter to know how to wash water cresses, and my master talked of asking Doctor ——— who belongs to the London Horticultural Society, to write to the Secretary to know how they washed them there. However this was not done, and it occurred to me to ask some of the women who gather cresses and brook-lime from the burns about Edinburgh, and call them through the town, how they did. I found they were not very particular in washing them, and had never heard of, or seen any thing like snails or vermin on the backs of the leaves. From this I concluded that there was no danger in eating these things, whatever they might be. The idea, however, was very unpleasant, and any that were sent up to table afterwards were carefully brushed with a cellery brush by the butler. But this was too much trouble to be continued for any length of time. The cook thought of washing them with ashes, which she said she knew would kill mites in cheese. I thought of lime water, which I knew would kill snails and worms, but on these plans being mentioned by my master to Mr. Brown of Dalkeith, he suggested the idea of having a tub of salt water from the sea, and steeping them a few minutes in that. We immediately adopted his advice, and succeeded perfectly in detaching every thing of the animal kind from the leaves. My mistress was so much pleased with the thing that she has since had every kind of salad washed in this way, especially such as grow close on the ground, and are apt to have worms and slugs gathered with them. We have even had small red worms come out of cabbages and lettuce, besides green fly, and caterpillars. After the vegetables remain three or four minutes in the salt water cistern, whatever has been in them comes out, and is seen writhing and dying in the water just as worms come out of the ground and die on the surface after a watering with lime water. The vegetables are then taken out and washed with fine fresh water in the usual way.

I think this is a thing that will be considered worth knowing by the readers of the Gardener's Magazine, as salt is now so cheap, it will cost very little, as the same water will last for weeks, the worms, &c. being strained out of it.

I am, Sir, yours, &c.
James Simson.

Musselburgh, Nov. 20th, 1825.

Art. VIII. *On the Cultivation of Hothouse bulbous-rooted Plants.* By Mr. Robert Sweet, F.L.S. Author of the Botanical Cultivator, Cistineæ, and other works.

Of all the genera of hothouse bulbs, that are cultivated in our gardens, none can vie with the beautiful genus Amaryllis, of which there are now numerous species, and also a great number of hybrid or mule productions in our collections, some or other of which are producing their splendid flowers all the year through. The mule plants are in general more hardy, and flower more readily than the original species, which makes them very desirable. In the nursery of Mr. Colvill, a great quantity of hybrid productions have been raised from seeds, and several hundreds of them were in flower all through last winter and spring, which was occasioned by the following method: — they had been grown in frames and pits all the summer; and in autumn, when it became time to remove them to the hothouse, they were taken out of the pots, and the mould was all shook clean from their roots; they were then laid on shelves in the house, and as the leaves and roots began to decay, they were cleared away, that they might not injure the bulbs. As soon as the bulbs became dry and hard, some of them began to show flower, and others continued to do so all the winter and spring, seldom being less than a hundred, sometimes two or three hundred in flower together, when scarcely any other plant was in bloom. As soon as they show for bloom they should be potted, and the sooner the better, as they draw up weak, and do not flower so well, if allowed to remain too long after showing bloom; as soon as potted they must be placed in the hothouse, giving them but little water at first, but as the pots get filled with roots they will require a greater supply. The sorts that succeed best in turning out are A. *reginæ*, *Johnsoni*, *crocata*, *acuminata*, *rutila*, *fulgida*, *psittacina*, and *vittata*, and all the hybrids that have been produced from them. A. *aulica*, *calyptrata*, *solandræflora*, and *reticulata*, do not like turning out so well, as it is their nature to continue growing all the year through, and the hybrid productions from those partake of the nature of their parents. They only require to be kept dry a considerable time in their pots to make them flower, except any get sickly, or the mould gets sodden in their pots; they should then be laid by to dry for a considerable time, or they will be apt to rot. By laying the bulbs to dry in this way, a far greater number may be grown than could by any other means, as by their being laid to dry on shelves, other plants can be grown in the space that they would occupy if kept in pots. A. *reticulata* and *striatifolia* succeed best in light turfy loam, mixed with sand; all the other sorts we find grow more freely in about one half light turfy loam, rather more than a third of white sand, and the rest turfy peat; the use of the turfy soil is to keep it from binding or getting hard in the pots, which it will do if sifted fine · the fibres in the turfy soil also keep it open, that the roots may pass readily through it; the pots must also be well drained with potsherds, that the moisture may pass off readily, as nothing injures bulbs so much as to be sodden in the pots; the roots are also very fond of running amongst the small potsherds. It is a very bad plan that is generally adopted of placing piece of flat tile or potsherd over the hole at the bottom of the pot, for by that means, by continual watering, the hole gets as firmly closed as if corked up, and the water remains in the pot, soddening and souring the mould, and very often occasions the plant to rot. The better way is to lay a hollow piece of potsherd about halfway over the hole, then to lay another piece or two against it, and to fill up all round with a handful or two of potsherds broken small, according to the size of the pot.

Seeds of this genus, as well as most other bulbs, should be sown as soon as ripe, and when the young plants are a few inches high, they must be potted off, either singly or several in one pot; if a hotbed frame be ready to receive them, all the better, as they will grow much faster in frames than in the house; as soon as their pots are filled with roots, shift them into larger ones, giving them three or four shifts in the course of the summer; they will then grow rapidly, and many will flower at twelve months old, particularly any mules from A. *reticulata* or *striatifolia.*

As the different species of CRINUM and PANCRATIUM continue growing at all seasons of the year, they will succeed better to be kept in pots continually, only shifting them occasionally into larger ones, as the others become filled with roots, for the more room the roots have to run, the finer the flowers will be; and *Crinum amabile*, if grown in a large pot or tub, will produce its magnificent and fragrant flowers four times every year. They will all require occasionally to have the mould all shook from the roots, and the suckers taken off, or otherwise they will become unmanageable. As they are of stronger and more vigorous growth than Amaryllis, they will require rather a stronger soil; some good rich loam, mixed with nearly a third of sand, and a little peat to keep it open, is the best soil for the different species, also being careful to have the pots well drained with potsherds; and if any bulb should chance to be getting rotten, or have lost its roots, it must be dried in the way recommended for Amaryllis. Any young plants that are wanted to grow fast, should also be placed in a hotbed frame or pit in summer, and as soon as one pot is filled with roots, it should be shifted into a larger one; by that means they will soon become flowering plants.

HÆMANTHUS *multiflorus* is a tender stove bulb, which requires a great heat, and particular care to grow and flower it well; the same soil as recommended for Amaryllis is suitable to it, and bulbs that are fresh imported should be potted and placed in a hotbed frame, but they will require very little water until they have made fresh roots; they will then need a frequent supply, but they will always require a warm situation in the hothouse, and care must be taken not to water them over the leaves, as it very frequently gets into their hearts and rots them; one reason, we believe, of their generally surviving so short a time in most collections, which is the more to be regretted, as they are splendid flowering plants.

ART. IX. *Historical Notice of the Present de Malines Pear.* By JOHN BRADDICK, Esq., F.H.S., of Boughton Mount, Kent.

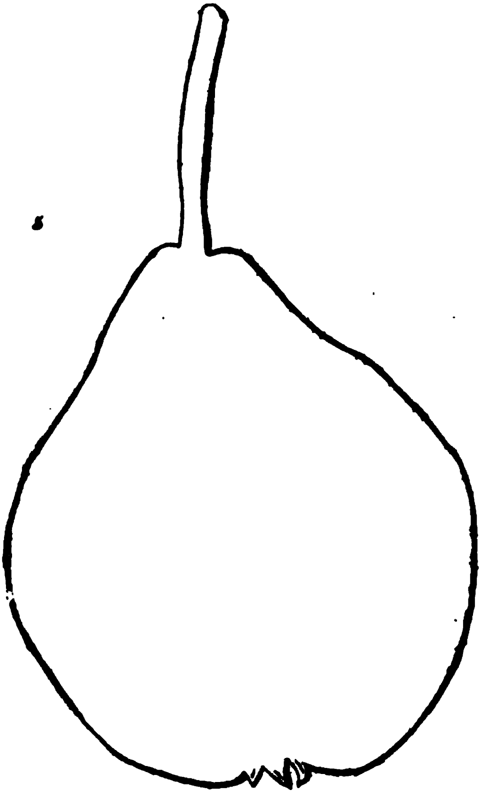
Dear Sir,

IT was not till this day that your Prospectus of the Gardener's Magazine reached me. I am happy to find that such a work is undertaken by you, in whose hands I am sure that it will be ably conducted. For the information of our horticultural brethren, to be inserted in your new Magazine, I herewith send you an account of a new pear, with four specimens of the fruit, which I beg that you will taste and report upon as your judgement shall direct. The history of this pear is as follows: — The late Count Coloma, of Malines, amused himself in raising new varieties of the pear, by im-impregnating the blossom, &c.; the idea of so doing first struck him near fifty years ago, as he informed me, on his reading the works of the English author, Bradley. During five years that I annually visited the continent, for the purpose of collecting buds of new fruits, I used every year to receive buds from the count's garden; several of those had fruited, and were named by him; many others, although considered as children of promise, had not fruited, and were, in consequence, without names; amongst the latter was a cutting, containing buds of the pear now sent to you; one of these buds I inserted into the bearing branch of a pear tree growing against a N.W. wall in my garden, at my late residence in Surrey, which bud produced fruit in two years after its insertion. This fruit was exhibited at a meeting of the Horticultural Society, and was pronounced by those gentlemen to be good. I wrote to Mr. Louis Stoffels, corresponding member of the Horticultural Society in the city of Malines, describing the pear, and requesting him to trace out the name of it: in reply to my letter, Mr. Stoffells stated that the Count Coloma's garden was sold, and his collection of fruit trees dispersed, so that no further information could be gained of the pear in that quarter. To this he added, that it was the wish of the Count's friends that the pear in question should be called Present de Malines, by which name it is mentioned in the Horticultural Society's transactions, and under this name I gave buds of it to Mr. Young, nurseryman of Epsom, and some others. Upon removing my collection of fruit trees last year from Thames Ditton, in Surrey, to this place, I brought with me a young standard tree of the Present de Malines, and planted it, together with the Seckle, Urbaniste, Poire d'Ananas, Passe Colmar, Napoleon, Marie Louise, Beurré, and many other new fruits, in an exposed situation, on part of Coxheath. This I did for the purpose of trying if those superior fruits would ripen on standard trees in the climate of England: all the trees appear to like the soil and situation, and the Present de Malines bore seven fruit this year, four of which I now send to you, and suggest, if you should find the fruit, upon tasting, to be of a quality that will warrant the measure, that you recommend this tree as a standard to be planted in the southern parts of England and Ireland; as an espalier in the midland parts of those countries; and against a wall in Scotland, and the remaining part of the other two countries. To this, I think, that you may safely add, that this fruit will prove a valuable acquisition to our national stock of pears. The tree is clean, healthy, and vigorous in growth, falls early into fruit, and promises to bear abundantly.

Respectfully I am,
Dear Sir,
Your most obedient servant,
JOHN BRADDICK.

Boughton Mount,
30th Nov. 1825.

Note.—We received the fruit, which have a good deal of the Bonchrétien shape, large at one end, smooth, and every where of a beautiful yellow colour: one specimen (*fig.* 5.) we tasted ourselves, and the others we sent to three eminent fruiterers. It is agreed that they are of most excellent quality, melting, and of a rich musky flavour. Mr. Grange, one of our first fruit-



erers, knows the pear, calls it a melting Bonchrétien, a good bearer, and excellent keeper. Mr. Cooke's opinion is to the same effect.

It is amusing to hear of the Standard Napoleon being planted on Coxheath, a spot where, during the war, the flower of the British army were assembled to prevent such a result. Mr. Braddick has purchased a very fine estate in that neighbourhood, which he is improving on an extensive scale, and introducing there, and, wherever he has an opportunity, the most improved varieties of hardy fruits. To this subject he has been devoted for many years, and, perhaps, no man living has originated from seed, or imported from France and America a greater number of excellent sorts. At Boughton, Mr. Braddick is his own architect, agronome, and gardener, and we should be most happy to receive some account of the many operations he has now going forward in building and planting.—Cond.

Art. X. *On the Cultivation of the Grape known as West's St. Peter, as practised at Spring Grove:* By Mr. Isaac Oldacre, F.H.S., gardener to the Emperor of Russia.

West's St. Peter grape is acknowledged by all who have seen it at Spring Grove to be the finest and best late grape yet cultivated in this country; and although it has been long in England it is but little known amongst horticulturists. I am not acquainted with its having been cultivated in the neighbourhood of London before I planted two vines of it at Spring Grove in the year 1818. It has made such rapid progress in its growth and fruit bearing, that I hope a short history of it in your Gardener's Magazine may be of no small interest to the lovers and cultivators of grapes in general, as, if they adhere to the few hints here given, they may have grapes all the winter months, as plentiful and as fine as at any time in summer.

I begin every year to force this grape in the middle of April, and keep the heat of the house where it grows as near sixty-five degrees fire heat, by Fahrenheit's thermometer, as I can until the summer months. This grape requires more heat to bring it to maturity than the Hamburgh, or any of the earlier kinds I am acquainted with. The fruit with me begins to change colour in August. When the weather is wet or cold at this season I make a little fire at nights, so as to keep the house at sixty degrees fire heat until the fruit becomes quite black, which is sometimes in the middle, and sometimes in the end of November, when I reduce it to temperate, and so keep it till I have cut all the grapes. This in some years is the beginning, and some years the end of March. The Poonah grape I keep till April, with the leaves on as if in summer.

The wood of West's St. Peter is round, of a brown colour, short jointed, eyes prominent, leaves rather small, and flat, smooth, and shining underneath, deeply serrated; they turn to a purple colour as the fruit becomes black. The vine grows freely, and is a great bearer; the bunches at first showing are small, and apparently weak, but gradually advance until they become long with large shoulders. The blossom sets freely, the berries are round, and grow of an even size, and if well thinned they soon become large. When ripe, the grape is of a very black colour, the skin thin, with small seeds, very juicy, and high flavoured.

There is another St. Peter grape which is known to most experienced gardeners, but is very different from the one above mentioned; the leaves of this old variety are very downy or woolly underneath, the edges turn downward, the berries are oval, and the wood long-jointed, that is, with great distances between the buds.

Spring Grove, 5th December, 1825.

ART. XI. *On the Relations of Heat, Moisture, and Evaporation in Natural and Artificial Atmospheres.* By THOMAS TREDGOLD, Esq., Civil Engineer.

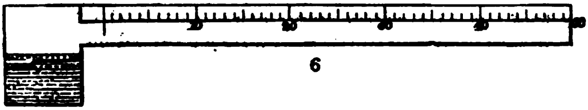
THE constitution of the atmosphere has a most important influence on the growth of plants, and particularly its relation to moisture. Till within these few years the variable state of the moisture in the air was not registered with any degree of accuracy; and, chiefly, from the want of proper instruments. A variety of contrivances have been, from time to time, invented for ascertaining the quantity of moisture in the air, but none of them are so perfect as it is desirable to render them. The well-known expansion and contraction of both vegetable and animal substances, by the effect of moisture, has been tried in several ways; but since there is no probability that the change of bulk is exactly proportional to the change in the quantity of moisture, these methods are not in much esteem. The increase and decrease of weight from moisture is objectionable for the same reason.

There are two methods, however, which give accurate results, though they are not quite so easily applied as the principle of expansion and contraction, and certainly not so well adapted for common observation. The one was first tried by Dr. James Hutton, and consists in observing the temperature as reduced by evaporation. Thus the bulb of a thermometer, being covered with muslin, and moistened with water, it causes the thermometer to sink a number of degrees corresponding to the state of the air in respect to moisture. In principle it is a simple and elegant method, in practice not so precise as the method next to be described.

When air is cooled below a certain temperature, it deposits part of the moisture it contains in the form of dew. Now when air deposits dew it is saturated with moisture, therefore, air always contains that quantity of moisture which would saturate the same quantity of air when its temperature is reduced down to the dewing point or temperature at which it deposits dew. But if a body cooled down to the temperature of the dew point be presented to a mass of air, dew is deposited on its surface; hence it only requires the combination of a thermometer, with a means of reducing the body containing it to such a degree of cold that dew deposits, to have an accurate means of determining the dew point; and, consequently, the quantity of moisture in the air.

A most ingenious instrument has been contrived on this principle by Mr. Daniell, and it has lately been slightly improved by Mr. Jones of Charing Cross. These instruments are, however, rather too delicate and troublesome for ordinary use, and something more simple seems to be desirable. The state of an artificial atmosphere, in regard to moisture may, perhaps, be most satisfactorily obtained by measuring the real quantity of evaporation, it being the excess or the deficiency of this quantity that affects the health of plants; and the evaporation in a given time is nearly proportional to the difference between the quantity that would saturate the air and the quantity it actually contains.

In order that the quantity evaporated in a given time may be sufficiently measurable, a proper surface should be exposed to the air in a cylindrical vessel, having vertical sides (*fig.* 6.); and a tube of smaller diameter might be added, into which the water may be changed to measure the quantity evaporated. If the diameter of the cylindrical vessel be 1·58 inches, and that of the tube half an inch, then each tenth of an inch in the cylinder will occupy an inch in the tube; and as the mean evapo-



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ration in our climate will then be equal to about one-fifth of an inch in the tube in twelve hours, this quantity might be made the unit on the scale; and the whole would be evaporated in fifty hours in the mean state of the air.

Place the tube in a perpendicular position, and fill it to zero; then place it with the tube horizontally as in the figure. When it is desired to know the quantity, which has been evaporated, invert the remaining portion from the cup to the tube, and the place of its surface in the tube will indicate the quantity evaporated. The lower part of the cup ought to contain as much water as fills the tube to zero.

This instrument will faithfully indicate the power with which the air is abstracting moisture from plants; it is a little troublesome in use, but not more so than the hygrometers, which indicate with equal accuracy.

The ordinary state of the atmosphere, with respect to moisture in this country, is extremely variable; but the mean result of many observations, of both the thermometer and the dew point, shows that the temperature of deposition and the actual temperature, follow each other in a regular manner. The difference between the actual temperature and that of the dew point is least in January, and gradually increases till June, when it again declines to its winter state. Mr. Daniell has observed these phenomena with much attention, and has given the results for three years. The mean of these observations is shown in the small tablet (*fig.* 7.), where the upper shaded line shows the

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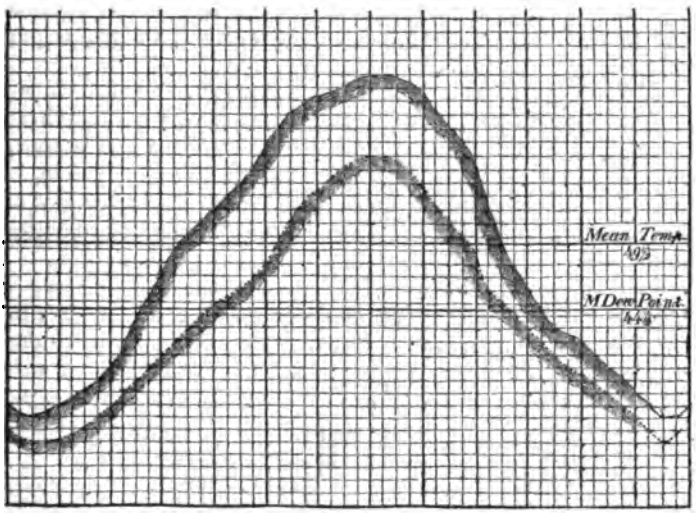


mean temperature, and the lower shaded line the mean temperature of the dew point. This species of tabular picture is valuable, because we can so easily observe not only the whole range, but also the range of any particular period. From Mr. Caldcleugh's observations at Villa Rica, the mean evaporation was double that in this country, and the quantity of moisture in the air also nearly double.

It will at once be perceived, that the progress of evaporation must depend on the quantity of water the air is capable of taking up to saturate it, and when it is perfectly saturated, evaporation must cease.

Also, since a supply of heat competent to form the vapour produced is absolutely necessary to the process, the evaporation must be limited by the supply of heat, and proportional to it. Hence, in the progress of evaporation, there will be cold produced, till the difference between the temperature of the surface affording vapour and that of the surrounding medium be equivalent to produce the proper flow of heat. It must obviously depend on the nature of the conductors which supply it, but must be constant under the same circumstances; and, therefore, the hygrometer of Dr. Hutton is founded on true principles.

But the surface affording vapour being cooled below the general temperature, the quantity of moisture the air is capable of taking up must be estimated from the temperature of the evaporating surface.

In ordinary circumstances, the ultimate depression of temperature is about one degree, by an evaporation of 150 grains per hour, from a surface one foot square, or 2·5 grains per minute.

It also appears from Mr. Dalton's experiments (Nicholson's Journal, vol. vii. p. 7.) that in a still atmosphere, where the heat is supplied in the quantity necessary to produce the vapour, the evaporation per minute, from a surface one foot in area, is exactly equal to twice the quantity of vapour in a cubic foot of saturated air of the same temperature, or 120 times that quantity in an hour.

From these conditions we have the easy means of forming a table to exhibit the evaporation from an area of one foot of water at any temperature. For this purpose, I will take the weight of vapour which a cubic foot of dry air takes up at different temperatures, when saturated, from my work on Warming and Ventilating, and add the columns for showing the rate of evaporation and temperature of the atmosphere.

The first column shows the temperature of the evaporating fluid at its surface; the second column the weight of water in grains that would saturate a cubic foot of dry air at that temperature. The third column shows the quantity, in grains, that would be evaporated in one minute, if the air had no moisture in it; and the fourth column shows the temperature of the air corresponding to this degree of evaporation, when the evaporating fluid is not supplied by extraneous heat.

Temperature of evaporating surface.	Weight of vapour in a cubic foot of saturated air.	Quantity evaporated in still air in grains per minute, from a surface of one square foot.	Temperature of the atmosphere in which the evaporation takes place.
32°	2·3 grains.	4·6 grains.	33·8°
35	2·5	5·0	37·0
40	2·9	5·8	42·3
45	3·4	6·8	47·7
40	4·0	8·0	53·2
55	4·6	9·2	58·7
60	5·7	11·4	64·5
65	6·9	13·8	70·5
70	7·8	15·6	76·2
75	9·2	18·4	82·3
80	10·7	21·4	88·5
85	12·3	24·6	94·8
90	14·1	28·2	101·2
95	16·9	33·8	108·4
100	19·0	38·0	115
105	21·2	42·4	122
110	24·6	49·2	130
115	28·0	56·0	137
120	32·5	65·0	146
125	37·4	74·8	154
130	42·3	84·6	163
135	48·7	97·4	174
140	54·9	109·8	184

A few examples will show the application of this table.

1. If the temperature of the air be 64·5°, then opposite 64·5 in the fourth column we find 11·4 grains for the evaporation in a minute when the air is dry; but if it has been ascertained that the dew point is at 37°, look opposite 37° in the fourth column, and the evaporation corresponding to that temperature is 5 grains. Take the difference between these, that is, 11·4—5=6·4 grains per minute will be the evaporation from a superficial foot when the temperature is 64½ and the dew point 37°.

If the grains evaporated in a minute be divided by 600, the result will very nearly express the inches in depth evaporated in an hour, in a still atmosphere.

2. In an atmosphere where the dew point is at 42·3 and the temperature 70·5°, required the depth of water evaporated per hour? This will be the difference between 13·8 and 5·8, or 8 grains per minute. Now $\frac{8}{600}$ is ·0134 inches per hour, or a little more than 3 tenths of an inch in 24 hours.

3. A forcing house contains 4000 cubic feet of air, and it is desired to know the quantity of water that would saturate it, the temperature being 70°.

Opposite the temperature 70° in the first column, the moisture which combines with a cubic foot of air at 70° is 7·8 grains, and 7·8 × 4000 is 31200 grains.

4. If the ventilation of a house be 300 cubic feet per minute, and the dew-point of the air admitted be 32° required the surface of water that would maintain the dew-point of the air in the house at 50 when its temperature is 70°?

When the dew-point is at 32° we find each foot of air contains 2·3 grains, and at 50° it contains 4 grains, the difference has therefore to be added by evaporation, but 4—2·3 is 1·7 grains, and 300 × 1·7 is 510 grains. The evaporation from each foot at 70° is nearly 13·8 grains, and at 50° about the mean between 6·8 and 7·8, or 7·3 grains, therefore 13·8—7·3 is 6·5 grains from each foot of surface; and as we have found that 510 grains will be required in that time, we have the quantity by dividing 510 by 6·5, which is very nearly 80 feet of surface.

By this time the reader will have felt that an important inquiry is but slightly entered into, it requires a more complete table, and experiments on the evaporation from moist earth, leaves, &c. to render it more useful. It is not to artificial atmospheres alone that the investigation applies, it may be extended to the face of the globe, and may enable us to trace the effects of cultivation, of stagnant waters in confined districts, and the proper distribution of wood, cultivated land, and water which will preserve a healthy element. Men, as well as plants, feel the exhausting influence of dry air, or perish under the effect of a cold and saturated atmosphere, and perhaps a warm and saturated one is equally noxious.

Those who are acquainted with the researches of Mr. Dalton, on evaporation, will find that his experimental analogy is abandoned, and the subject referred to those first principles which must be involved in the question; and I trust I have done sufficient to show the basis of an accurate theory.

Mr. Dalton's analogy gives nearly true results in low temperatures, but in high ones it is very erroneous; besides not accounting for the well known depression of temperature which must take place where the heat is not supplied from an artificial source.

Art. XII. *On the Cultivation of Vines in the open Air in Great Britain.* By R. A. Salisbury, Esq., F.R.S., L.S., H.S., &c.

Many years ago, the writer of this paper had an extensive range of glass-houses, built chiefly for the cultivation of exotic trees and plants, half of which being removed into the open air for seven months, the rafters were devoted to training vines along them; and the climate being cold and soil unfavourable, namely, one of the more barren districts of Yorkshire, some of the grapes never ripened well, no artificial heat being given, as a far more abundant supply than was wanted, ripened in his other frames and hothouses. A very large brick building adjoining this range of glass was covered entirely with a single vine of the miller's grape, and as it was ornamental to the building, it was pruned and trained yearly, at no trifling expence, though it very seldom ripened twenty bunches out of from 1000 to 2000, which it annually bore.

A Scotch nobleman, who often visited the place, one autumn made the following remark, and, I believe, nearly in the following words: — "When I was a young lad, I remember eating ripe grapes from a vine in the open air near Stirling Castle, which was brought to ripen half its crop in most summers, and a whole crop in warmer summers, by the following treatment: —On the 20th of September prune the vine as you would in the month of December, taking off all the leaves and grapes, ripe or unripe, and shortening all the branches to 1, 2, or 3 eyes at most. The following spring it will push its buds a few days before any neighbouring vines pruned in winter. Train it as carefully all summer as if you was certain it would ripen its crop of fruit. Pursue the same system annually, pruning the tree always between the 20th and 30th of September, and in the course of seven years, you will be rewarded for your patience and expence, with half a ripe crop in most summers, and a whole ripe crop in warm summers."

This mode of treatment was immediately begun in his lordship's presence, and five years afterwards some excellent wine was made from the grapes.

The only remarks I have to add to your intelligent readers, are

1st, That sage *prince of gardeners*, as *Linné* called him, *Philip Miller*, informs us, that if the vineyards in the north of *France* are neglected, it takes seven years' careful pruning and proper treatment to make them ripen their crops of fruit.

2dly, The experienced president of the Horticultural Society has found that all vegetables, which require to be left in a state of inactivity during winter, vegetate sooner in spring, if that state of inactivity is brought on sooner in autumn; hence, though the winter of 1824-5, was so mild, that a small leaved *myrtle* and *geranium zonale* survived in the open air in the court of the writer of this paper near *Bryanstone Square*, the spring flowering plants and shrubs, and even the *almond* trees, blossomed remarkably late, considering the temperature of the season; and what is still more to the point, he observed *winter aconites* and *crocuses* in blossom from north of the river *Trent* so far as *York*, where the winter had not been so mild as in the southern counties, but several days of continued frost and snow had occurred; those flowers, with the mezereon being much more advanced than in the gardens and nurseries about *London*, which were visited the day before he left London.

3dly, To any person, who wishes to pursue this mode of hastening the maturity of grapes, north of *Stamford* in Lincolnshire, he recommends the cultivation of the *miller's* or *Burgundy* grape exclusively; for he has found it unaffected by smart frost, when the shoots of the *muscadine* and *sweet water* were injured; and this is easily and physically accounted for by the very thick wool of its young shoots.

4thly, In the more southern counties, where many varieties of grapes ripen better, still an attention to the practice now recommended will ensure a superior flavoured crop, and some of the very best Grisly Frontiniacs, he ever tasted, were produced in the late Earl of Tankerville's garden, at Walton upon Thames, when under the care of Mr. John Dudgeon, who afterwards lived with Dr. Fothergill.

ART. XIII. *On the Culture of the Huntingdon Willow, Salix alba, as a Timber Tree.* By MR. ARCHIBALD GORRIE, C.H.S., &c. of Annat Garden, Perthshire.

THERE are few subjects connected with rural economy of more national importance, or more generally interesting than the rearing of timber. The purposes to which the propelling power of steam has been recently applied in navigation, and as an auxiliary in many of the arts, together with the immense quantities of coal used for furnishing gas in great towns, have produced a rise in the price of coal of from 15 to 20 per cent within the last twelve months; a demand in many places for brushwood to be used as fuel, with a corresponding rise in price, has been the consequence; a demand, which in many districts, the state of plantations is but ill calculated to meet. The present demand for timber also, for ship-building, and for improvements going forward in the island, is unprecedented; consequently wood of every description is becoming every day more valuable.

When a man of wealth employs his capital in any ordinary speculation, or in any of the joint stock schemes of the day, he calculates on an early return; but he who lays out his money in the rearing of timber, has no stimulus but the interest he may have in the soil, or in the welfare of posterity. Hence, where we see an estate that is likely to descend by entail to an heir at law of a distant relationship, we find that the operation of planting is seldom engaged in to any great extent, unless it be with a view to burden that estate with a proportion of the expence on such improvements, in favour of nearer or dearer collateral branches of the family; and wherever we see the operation of planting entered into under such circumstances, the future management of the plants is too frequently neglected.

There are, indeed, several of our most useful trees, which require the lapse of ages before they arrive at a state of absolute maturity; but there are others of more rapid growth, which acquire considerable magnitude, within the natural period of human life, and which may, in the natural course of events, be cut down a full grown tree, by the same hand by which it was planted. The most distinguished of these, and the one which seems most to deserve public attention, I conceive to be the Huntingdon willow, Salix alba, of English botany, of which there are several varieties.

The uses to which the timber of the Huntingdon willow are applied are various. In ship bottoms it is not found so liable to split by any accidental shock as oak or other hard wood. It is found an excellent lining for stone carts, barrows,&c. In roofing, it has been known to stand an hundred years as couples, and with the exception of about half an inch on the outside, the wood has been found so fresh at the end of that period, as to be fit for boat-building. Its bark is used by the tanners and there is no tree that in the same time will yield so much bark for fuel, or that requires less labour in preparing it for the fire, where it gives out most heat when burnt in a green state; and to all this it may be added, that its cultivation is the most simple, while it will luxuriate in most soils, where other trees make comparatively slow progress.

As a proof of what is stated above respecting easy culture and rapidity of growth, I may remark, that it is only fourteen years next February, since I was engaged in planting a piece of rising ground on the estate of Rait, on the northern bank of the Carse of Gowrie. The soil a dry gravel, which effervesced freely with acids, the bank formed a slope of 45° without sward; at the bottom runs a small rivulet on a bed of the same kind of gravel. The bank and higher grounds were planted with oaks, larch, and Scotch fir, and the sides of the rill with alder and Huntingdon willow. The undertaking was by my neighbours reckoned foolish, and I had to encounter no little obloquy for my presumption. The result, however, has been favourable, the plants on the high ground come away boldly, and in the hollow, which is only about 50 feet above the level of the sea, the Huntingdon willow has made astonishing progress; at four feet above the ground, several of the trees already measure 46 inches in circumference, and in length from 55 to 60 feet, giving fully an inch in diameter, and four feet in altitude for every year they have been in the soil. The plants were about four feet in length, and one-fourth of an inch diameter at planting. Pruning has been regularly attended to, all thick aspiring branches were removed, the leading shoot and numerous small side shoots encouraged for the purpose of producing sufficient foliage to elaborate the sap.

One peculiar advantage in the culture of this valuable plant is, that in planting, rooted plants are not absolutely requisite. I have found shoots of from six to eight feet, and about two inches in diameter, succeed better than rooted plants; they require to be put from eighteen inches to two feet deep in marshy soil, which should be drained; the numerous roots sent out in such soil affords abundant nourishment, and shoots are produced the first year more vigorous than when the plants have been previously rooted.

If you think this paper worthy of a place in your "Gardener's Magazine," and if it shall have the effect of turning the attention of any of your readers to the cultivation of a plant which is particularly useful, I shall feel highly gratified.

In the mean time I shall conclude by expressing my sincerest wish for the prosperity of your present undertaking; a "Gardener's Magazine" I have long considered as a desideratum in the periodical literature of the day. Your other labours on rural economy I am not unacquainted with. The talent, the zeal, and the perseverance these labours exhibit, produce my cheerful compliance with your request, in becoming a contributor to your Magazine.

I am most respectfully, Sir,
Your obedient servant,
ARCHD. GORRIE.

Annat Garden, Errol,
Dec. 6th, 1825.

PART II.

REVIEWS.

Art. I. *Garden Botany.*

1. *The Botanical Magazine, or Flower Garden displayed; in which the most ornamental foreign Plants cultivated in the open Ground, the Greenhouse, and the Stove, are accurately represented in their natural Colours, &c.* By Wm. Curtis. *Continued* by John Sims, M.D. F.R.S. &c. &c. 1787—1826. 53 vols. 8vo. London.

2. *The Botanical Register, consisting of coloured Figures of exotic Plants, cultivated in British Gardens; with their History and Mode of Treatment.* The designs by Sydenham Edwards, F.L.S. 1815—1826. Vols. I.—XI. 8vo. Ridgway, London.

3. *The Botanical Cabinet, consisting of coloured Delineations of Plants from all Countries, with a short Account of each, Directions for Management, &c. &c.* By Conrad Loddiges & Sons. 1817—1826. 10 vols. 4to. and 8vo. London.

4. *Exotic Flora, containing Figures and Descriptions of new, rare, or otherwise interesting exotic Plants, especially of such as are deserving of being cultivated in our Gardens, &c.* By W. J. Hooker, LL.D., F.R.A. & L.S. &c. &c. 29 Parts. 8vo. 1823—1826. 2 vols. Blackwood, Edinburgh.

5. *Geraniace, or Natural Order of Geraniums.* By Robert Sweet, F.L.S. 1820—1826. 6 vols. 8vo. Ridgway, London.

6. *The British Flower Garden.* By Robert Sweet, F.L.S. 1822—1826. 2 vols. 8vo. Simpkin and Marshall, London.

7. *Cistineæ. The Natural Order of Cistus or Rock Rose.* By Robert Sweet, F.L.S. 3 Nos. 8vo. 1825. Ridgway, London.

8. *Flora Conspicua; a Selection of the most ornamental, flowering, hardy, exotic, and indigenous Trees, Shrubs, and herbaceous Plants for embellishing Flower Gardens and Pleasure Grounds.* By Richard Morris, F.L.S. *Drawn and engraved from living Specimens,* by Wm. Clark. 6 Nos. 8vo. 1825. Smith, Elder, & Co., London.

9. *The Botanic Garden; or Magazine of hardy Flower Plants cultivated in Great Britain, each number containing Four coloured Figures.* By B. Maund. Nos. 1—7. Small 4to. Baldwin, Cradock, & Joy.

It is our purpose, under this head, to lay before the public, regularly, an analytical and critical account of such periodical publications, upon the subject of Garden Botany, as are of sufficient importance to deserve attention. In order to fix a definite period from which our observations may be commenced, we have determined to take the 1st January 1826, the day of the birth of this Magazine; and to occupy in our first Number the space hereafter to be devoted to detailed criticism, with some account of gardening throughout Europe at the present day, as far as it exercises any influence upon botanical pursuits.

France, which may be truly called the cradle of science, has long been celebrated for the number and importance of her public botanical institutions, and for the deep interest her government has taken in the prosecution of every department of Natural History. From the days of Tournefort, there has scarcely been an expedition of discovery undertaken, to which a botanist has not been attached, with ample means of prosecuting his pursuits. Resident botanists and collectors have been placed in every colony belonging to the French government, whose foreign possessions have scarcely been less assiduously investigated than its provinces at home. The voyages of Commerson, of Michaux, of Olivier, of Labillardière, of Du Petit Thouars, of Leschenault, of Bory de St. Vincent, and of a host of other scientific travellers, and the large collections formed by Dombey, Aublet, and others of less note, have supplied the French botanists with stores of knowledge more ample than have been possessed in almost any other country. The importance of these is shown by the extent of the advantage derived to the French botanists by the acquisition of them, by the multitude of new species and genera, with which the publications of Jussieu, of Lamarck, and his successors, of Desfontaines, and more recently of Decandolle, are replete. Of private means applied to the prosecution of investigations in natural history, the expedition of Humboldt to South America is a splendid example. The various scientific publications in illustration of its results, are a noble monument of the zeal, and knowledge, and well applied resources of the most illustrious traveller now existing. The public gardens of France are numerous; but, with the exception of Paris and Montpellier, have not much celebrity. They are generally ill managed and inadequately supported. That of Montpellier, which has successively been under the direction of Magnol, Gouan, Decandolle, and Delile, all botanists celebrated in their day, has acquired a high degree of reputation; the *Jardin des Plantes* at Paris is also an establishment of great celebrity, and numbers of the rarest plants have been reared within its walls: but as a botanic garden, it is inferior to some of other countries of Europe.

The private gardens in France, in which botanical objects occupy a principal place, are many. They all, however, belong to nurserymen, or private gentlemen, who traffic in the produce of their gardens in order to maintain them. That of Cels, at Paris, is celebrated by the labours of Ventenat; Noisette, another Paris nurseryman, possesses a large collection of botanical rarities; and among the amateurs, the establishments of Parmentier at Enghien, of Soulange-Boudin at Fromont, and of Boursault at Paris, deserve honourable mention. Some efforts have lately been made to establish an horticultural society at Paris, but we know not with what success.

Botany in *Spain*, like all the other liberal sciences, may be said to have at present no existence in that unhappy country; its professors are banished, its gardens desolate, and all that mighty support, which was once bestowed upon them, withheld, as much, perhaps, from the ignorant recklessness of the reigning sovereign as from the exhausted state of his treasury. But the time has been when Spain was the most powerful patroness botany ever experienced; as the numberless scientific expeditions, undertaken by that country at enormous cost, and its splendid public gardens abundantly testify. The former have ever been unparalleled for the unlimited resources with which they have been prosecuted. Not to mention the fruitless expedition of Hernandez to Mexico, in the reign of Philip II., which is said to have cost the large sum, for the time, of 50,000 crowns; the reign of Charles III. was, beyond all others, fruitful in voyages undertaken by order of the Spanish government for the purposes of instituting remarks on the botany and natural history of the New World. In that reign Joseph Celestino Mutis, the well-known correspondent of Linnæus, was appointed to investigate New Grenada; John Cuellara was sent to the Philippines; Martin Sessé and others were commissioned to explore Mexico, and to the same expedition was joined Vincentio Cervantes, an experienced gardener, who was specially provided for the purpose of founding a botanic garden at Mexico, now existing. To circumnavigate the globe, and to enrich their country with the productions of every other part of the world, another voyage was carried into execution, to which Antonio Pineda, Luis Née, and Thaddeus Hænke, all assiduous and enterprising naturalists, were attached. But the best arranged, and to science the most important of all the Spanish expeditions, that of Don Hippolito Ruiz, and of Don Joseph Pavon, to examine Chili and Peru, remains to be enumerated. These celebrated travellers, together with Joseph Dombey, a French botanist, and an ample retinue of attendants, among whom were two draughtsmen, reached Lima in April 1778. The results of this famous enterprise are too well known to require repetition here. Suffice it to say, that the advantages which have accrued to botany from it have been almost without parallel, notwithstanding the miserable shipwreck of a large part of their collection in fifty-three cases on the coast of Portugal. These various expeditions, exclusive of the ancient one of Hernandez, are said to have cost the Spanish government more than *five hundred thousand pounds.* The public gardens of Spain may be said to have received a corresponding degree of attention, but they are less known than those of other countries, from the little intercourse which Spain has maintained with the rest of Europe. At Aranjuez a famous garden was formed by Philip II., another at Cadiz, by Philip V., and the botanic garden of Madrid, one of the most celebrated in Europe, was established by Ferdinand VI. Besides these a public garden was formed at Carthagena, by the orders of Charles III.

In *Germany,* the various states have all considered botany an important part of the endowment of any university; whence the number of botanical gardens in that part of Europe is very numerous; they are generally rich in such plants as require no artificial protection, but poor in stove and greenhouse plants; but the gardens of Berlin and Schönbrunn are noble instances of perfection in all the departments of a useful and scientific botanical collection. The last catalogue of the Berlin garden enumerates [redacted] species, many of which are new. At Schönbrunn, celebrated as the storehouse whence the Jacquins have for so long a time drawn their inexhaustible treasures of botany, great additions have been making within the last year by the construction of new hothouses, and the inclosure of a larger quantity of ground. The [redacted] maintains botanical collectors in various distant countries. At the present time, Ehrenberg and Hemprich are in Egypt, Sellow and Olfers in Brazil, and some others at the Cape of Good Hope. The late King of Bavaria, at whose private charge Drs. Martius and Spix were for a long time occupied in exploring the riches of Brazil, did not cease to extend his patronage to them after their return, but nobly provided the means of making the world acquainted with the result of their discoveries, in a manner equally worthy of the monarch and the man of science. The work on Brazilian palms, by Dr. Martius, is one of the most splendid and perfect botanical productions the world ever beheld. It is well known that the Prussian government, under the advice of Count Altenstein, has also long maintained collectors not only in Brazil, which seems to be a favourite country with the German princes, but also at the Cape of Good Hope and the Isle of France.

The botanic gardens of Germany, which belong to private persons, are scarcely known, with the exception of that of the Prince of Salm-Dyke, which is the richest in the world in succulent plants, and of the brothers Baumann, nurserymen, at Bollwiller, whose catalogue exhibits a very considerable list of plants upon sale, of all descriptions. An horticultural society, upon the plan of that of London, has lately been created under the auspices of the king of Prussia.

In *Russia*, where the arts and sciences are just beginning to appear, under the auspices of an enlightened monarch, 50,000 silver roubles, and the Apothecaries' Island in the Neva, at St. Petersburgh, have recently been appropriated to the construction of a national garden, for the support of which an ample income has been assigned, the whole being under the direction of Dr. Fischer, a botanist, to whom a high station has long since been assigned in the ranks of science. By this time 3000 feet of hothouses will have been completed, and the whole of the garden stocked with every kind of rare or valuable plants, collected either by gift or purchase, and at a vast expense, from every country in Europe. Nor has the watchful eye of the Russian sovereign closed with the completion of this great work: not only has ample provision been made for the permanent support, on a most liberal scale, of the establishment of the garden itself, but every means has been taken for securing for it a continual increase of botanical riches. Not one of the Russian vessels of discovery has sailed without a botanist and his necessary equipments. An expedition to Siberia, for the purpose of exploring the natural history of that vast and little known region, in all its branches, is under consideration: and an experienced collector, from the national garden, of the name of Pomortsoff, has been already dispatched to the borders of the Caspian sea, whence he is to examine a part of Caucasus. In the spring he will be at the Baical lake, which is one of the most interesting districts in the world, in a botanical point of view, especially the adjacent mountains of Koultak. It is at that point that the floras of Middle Siberia and Daouria unite; it is there that the curious Robinia jubata exists, and it is in that favoured spot, and not in Kamtchatka, that the Lobelia Kamtchatica of Pallas is found, with many other plants equally beautiful and interesting.

The minor states of Europe, *Denmark*, *Sweden*, and *Holland*, have amply proved themselves liberal patrons of botany. If their exertions have been less powerful than those of other states, it must be remembered that their powers have been less adequate to the prosecution of costly scientific expeditions. But the Flora Danica, and the excellent botanic garden at Copenhagen, are evidence of the good dispositions of the Danish government. The Dutch, while they were the lords of the sea, were also the protectors of natural history in an eminent degree; and their once famous botanic gardens are still maintained. The Dutch have also a colonial garden at Batavia, under the direction of Dr. Blume, and a powerful and active patron of natural history in Baron Falk. In Sweden there is not an university without its public botanic garden, and its professors, many of whom have filled the highest ranks in science. *Portugal* has smaller claims than any other state upon the gratitude of the world for her efforts in the cause of science; yet there are public botanic gardens both at Lisbon and Coimbra. *Italy* has numerous botanical institutions, and we believe that even in the Papal states some traces of such establishments may still be found.

The government of *North America* has shown itself not insensible to the advantages of encouraging among its subjects a feeling for other pursuits than those connected with mere mercantile speculations. Seated in a country rich beyond all others in stores of botanical wealth, it would have been indeed surprising if the study of botany had not been among the first of those objects which the American government felt itself bound to patronize. Accordingly we find botanic gardens and professorships attached to the American universities, and expeditions fitted out for the purpose of making scientific discoveries. At one time the country was chiefly known by the investigations of Europeans; but now there are the native names of Hosack, Elliot, Nuttall, Torrey, Barton, Bigelow, and others, all of which deserve honourable mention for their exertions in the protection or prosecution of native botanical investigations, and some of whom are held in high estimation even among Europeans. There is also a horticultural society established at New York.

In Great Britain, the aid which has been given to botanical pursuits by the government, and especially by the wealth and boundless commercial resources of private persons, has been such as to raise the gardens of England to a far higher state of perfection than those of any other part of Europe. We cannot say that the few expeditions undertaken with the immediate patronage of the British government have produced such generally beneficial results, as some of those carried into effect by France or Spain; but this has happened rather from contingent circumstances than from any thing ill-arranged in the voyages themselves. The mission of the Forsters to the South Seas with Captain Cook produced extensive advantages, of which the public is sufficiently informed. The celebrated expedition round the world of Sir Joseph Banks, with Solander, and an unheard-of equipment for the investigation of every branch of knowledge, undertaken in Cook's second voyage, was, in every sense, a private act of munificence and personal exertion like which there are few instances upon record. Nor were the scientific results of that famous expedition less brilliant than the expectations which were formed of them. To botany it may almost be said to have given a new creation, by the multitude of unheard-of plants which were then, for the first time, made known. In the year 1802, a highly distinguished botanist, and no less skilful botanical draughtsman were appointed to accompany the expedition under Captain Flinders, to explore the coasts of New South Wales. How admirably the objects of this enterprize were carried into effect, we are informed not only by the official history of the voyage, but also by the extensive benefits which have accrued from it to the public. A more splendid collection of botanical treasures was never formed under any circumstances, the portfolios of drawings were of inestimable value, and the materials of all kinds which were collected for an account of the vegetation of Australasia, were as near perfection as any thing human could be. But, alas! the liberal patronage which had been bestowed upon the expedition while abroad was, as soon as the time arrived for giving to the world the result of its labours, unfortunately withheld, and all which is even now known of its botanical discoveries, has been published at the *private* charge of Mr. Brown, while the incomparable drawings of Ferdinand Bauer, which could only have been made public at a national expence, are still slumbering in their portfolios. With Captain Tuckey's expedition to the Congo was sent the unfortunate Christian Schmidt, and an abundant train of naturalists and assistants. But the lamentable result of that voyage has of necessity prevented any material advantage from resulting from it. It is, however, scarcely worth expecting any really valuable national assistance in botanical science, while there is no national receptacle for the arrangement and examination of the objects collected. Within the walls of the British Museum the name of botany is almost unknown; and had it not been for the noble fortune which was generously supplied by the late Right Honourable Sir Joseph Banks to the service of the science, and for the *point d'appui* which he suffered his private residence to be made, it is impossible to believe that the numerous collections of dried plants which were either obtained from the government expeditions or from the laudable exertions of various British Officers, not specially employed in scientific pursuits, would at this day have had any public existence.—The royal gardens at Kew have been long celebrated for the stores of vegetable riches which have been for nearly half a century concentrated within their precincts. Government collectors maintained at great expense, national expeditions, the various botanic gardens of Europe, the establishments of the Honourable East India Company at Calcutta and Madras, the governors of colonies, merchants, and private individuals of all ranks and descriptions, have filled the Kew garden to an overflow with all manner of botanical productions. At least such is the general belief: but since the publication of the last edition of the Hortus Kewensis, the public has had little opportunity of acquiring any precise knowledge on this point, owing to the peculiar system of exclusive possession which it is thought necessary to maintain in that national establishment. The new garden at Edinburgh attached to the college is a noble institution, and cannot fail to be of high importance to botanists in the northern parts of these islands.

Nurseries and gardens for the rearing and establishment of native plants, have been formed in almost all our colonies. Under the protection of the East India Company, the celebrated botanic garden at Calcutta has been raised to a state of excellence which has never been equalled in a colony; another garden exists at Ceylon. That formed at the Isle of France, by the French government, is still maintained by our own; and an establishment for the growth of the native productions of New South Wales is in full activity at Port Jackson. In the West Indies there are botanic gardens at Trinidad and St. Vincent's, from the latter of which numerous valuable importations have been frequently received; but we understand it is now neglected. In Jamaica a garden and a horticultural society are in the course of being formed.

Now let us turn our eyes to the private protection and assistance, which botany has received in Great Britain, and we shall find nothing like it in any other part of the world. To pass over the garden of Sherard at Eltham, which was copiously stored with plants, of which more than four hundred new species were published by Dillenius in 1732, no one can have forgotten the noble garden founded at Chelsea by Sir Hans Sloane, and attached to the company of apothecaries. In this garden, which at the time of Miller was in the meridian of its glory, all those contributions which are now dispersed among the public, were, as it were, concentrated, and the number of unknown plants which were first reared in its hothouses was very considerable. From the time of Miller, the taste for garden botany in England has been rapidly increasing, and the collections of private individuals have been extended, until some of them rival in extent the large public establishments of the Continent. Besides the botanic gardens of the two English universities, one of which, that of Cambridge, was, in the time of the late Mr. Donn, among the most celebrated in Europe, most important public gardens have been founded by the liberality and zeal of private individuals at Glasgow, at Liverpool, and at Hull. The two former of these are now in so flourishing a state, that the first mentioned is said to contain no less than eight thousand species of plants, and that of Liverpool is perhaps more extensive.

The taste thus excited by the zeal of amateurs has naturally rendered the introduction of rare plants an important object of commerce, and has induced individuals to risk large sums of money in the business of nurserymen. The late Mr. Lee maintained for a long time, in partnership with the Empress Josephine of France, a collector at the Cape of Good Hope, by whom an immense number of new plants was introduced, and similar expeditions have been undertaken by other enterprizing nurserymen. The noble establishment of the Messrs.

Loddiges at Hackney, is scarcely equalled in any part of the world.

But the most remarkable feature in the modern history of gardening, is the extraordinary impulse which has been given to the public mind through the London Horticultural Society, which in the short space of a very few years increased from three or four hundred to about two thousand members, among whom is now ranked nearly all the nobility and science of the land. This society has established one of the most extensive gardens in the world, in the vicinity of the metropolis, and has spared neither cost, nor influence, nor exertions, to accumulate within its bounds all the most rare and valuable productions of the vegetable world.

From the preface to the 5th volume of the transactions of this important institution, we learn that infinite pains have been taken to secure the acquisition of new plants, by the mission of collectors to various countries. We are told that a large stock of China and East Indian plants were obtained by the exertions of Mr. John Potts in Bengal and China in 1822; we are also informed that the government expedition under Captain Owen, to explore the eastern coast of Africa, was accompanied by a promising young botanist, in the service of the society, Mr. John Forbes, who unfortunately perished. A considerable accession of valuable plants has also been acquired by the same body from the voyage of Mr. George Don to Sierra Leone and the eastern coast of South America, and of a second collector sent to China. Add to all these, that an enterprizing young man has been dispatched to the north western coast of North America, and an experienced collector to the Sandwich Islands, and it is impossible to doubt that the result of all this expense and exertion will be productive of the most important advantages to science. How much has been already done is abundantly shown by the transactions of the society, and by the large number of new plants which have been distributed to the public, and published in the various periodical works, to the review of which this part of our Magazine is particularly devoted.

If to these means of acquiring the rarest vegetable productions of all parts of the world, are added the stores of Eastern treasures which are poured into Great Britain from the important establishments of the East India Company, it will be easily conceived that no part of the world can at the present day boast of such superb private botanical establishments as England.

The last edition of the well-known Hortus Cantabrigiensis, in 1823, enumerates about 12,000 species; to which it is probable that at least 5000 may be added, if the obscure tribes of plants which are not admitted into that useful work, and those which have been introduced since 1823, be taken into account. The number of plants, new to the gardens, which were seen in England for the first time in 1824, could not have been much less than 1000.

An admiration of the beauties of the vegetable kingdom has diffused itself through all ranks of society, and has become the favourite recreation of the merchant, of the private gentleman, and of the man of letters. To administer to such laudable pursuits, and to render the votaries of fashion the willing instruments of promoting the progress of science, was the original intention of such works as are at the head of this article. If some of those which are of recent existence, cannot be said to have kept the latter object so much in view as the former, let us do justice to those which have never suffered themselves to lose sight of the interests of science for the sake of administering to a morbid disposition among the public to the contrary.

The number of periodical publications to which the prevailing taste for garden botany has given rise is very considerable. In France the *Choix des Plantes*, the *Jardin de la Malmaison*, and the *Jardin de Cels* of Ventenat, and *Liliacées* and *Roses* of Redouté, are excellent works of this description. To the same class in Germany may be referred the splendid publications of Jacquin. But it is in England that such works have flourished beyond any example in foreign countries. By judiciously adapting the cost and the size of their books to the means and wishes of the public, and by laying them before their purchasers in an unexpensive form, with a perpetual recurrence at certain definite periods, a circulation has been created for expensive works on the plants of our gardens which never could have been obtained, if the necessary conveniences we have noticed had not been supplied. Indeed the only instances in which similar works have not met with adequate support, have either been when the publication, from its price, was beyond the reach of the great mass of the public, or from the irregularity of its appearance gave no reasonable hope of a long continuance.

The utility of periodical publications connected with the objects of science, cannot be placed in a stronger light than by the forcible observations of one of the most distinguished of their editors. "A moderate priced periodical publication," says this writer, "with figures of the objects of that department of the history of nature to which it happens to be dedicated, accompanied by an as popularly written account of the subject as the matter will admit of, serves for the immediate and imperishable record of species, which never after lose their place in the forthcoming systems of natural history; while they remain a standard for compilers to refer to, serving at the same time to lighten their labour. We believe that many a tolerable botanist has been made by these works, and still more collectors, ever upon the alert to assemble the curious and new objects of their pursuits, that they may behold them a part of the general history of nature, and be taught their story, while they themselves become the means of having a value stamped upon things which had none before. A plant, for instance, that is to remain unknown to its possessor except by its fugitive blossoms, or till the owner becomes a botanist, is valueless, and escapes attention; while by the publications to which we allude, the pursuits and expenses of the collector and the florist, otherwise lost and useless, are rendered important to knowledge, and are made to enlarge the sphere of its activity, as well as to contribute to the amount of its treasures. It is not much above thirty years that a work of this kind appeared amongst us, and the diffusion of a taste for the study of nature has, to our certain knowledge and observation at least kept pace with that appearance. Formerly the rarest vegetable bloomed for its master alone, or perhaps to the desert air; now a blossom no sooner expands than its representation is spread, not only over this country, but in a short period reaches the abode of every botanist, even of him who dwells at the foot of Mount Caucasus, and makes an addition to the general fund of literature, while it brings in contact the learned and lovers of science in every region. The reference to a figure enables the inhabitant of Petersburgh and Vienna to acquire the plant he wishes to possess from the nurseryman in London; while a name without a figure had long proved a source of irremediable confusion and imposition between the two. The more costly works published by the assistance of the continental governments, are useful only to the rich, and to the student who has access to their libraries; to the bulk of mankind they are unknown, and of no avail. To detect a species, in the general enumerations of plants, is only within the power of one already versed in the science; to others these works are unfathomable."

To these observations we may add one word more upon the utility of the scientific and theoretical speculations which are introduced into the most important of these publications; and to this we are particularly induced by the knowledge that it is the opinion of many amateurs, that in works specially intended for their use, abstract disquisitions should be purposely avoided. Indeed nothing is more common than to hear people crying out that botany is merely a science of idle speculation, and charging its professors with an absolute neglect of the only essential object connected with its study, that of the *properties of plants.* But these gentlemen forget, as an ingenious French writer has truly said, that the same observations apply to every other branch of science, which is in its essence pure and theoretical, and that the utility of a particular science is only developed by placing it in combination with several other sciences, when it for the first time becomes applicable to the wants of mankind. The reason of this is obvious. A particular science abstractedly considered, looks at its integral parts in one point of view only, while on the contrary a knowledge of its relation to others is absolutely indispensable before any substance whatsoever can be successfully applied to the purposes of man. It is also forgotten by those who affect to despise the study of the vegetable kingdom in a theoretical view, that it often happens that the moment when the labours of the botanist appear to be furthest removed from the wants of society, is precisely that at which he is about to offer an important discovery. For by the peculiar mode of his arrangements, he gives to the world a power of consulting all the writings upon a given subject which have ever appeared, and so places the experience and the knowledge of all countries and all ages in a right point of view; and by an attentive, and as, it appears to ignorant people, by an unnecessary examination of the characters and peculiarities of a new vegetable, he arrives at a knowledge of the natural relation which it bears to others already known, whence the chemist or the physician may be enabled to form a tolerably accurate notion of the purposes to which it may be applicable.

We shall now advert to the publications at the head of this article. The *Botanical Magazine* owes its existence to the late Mr. Wm. Curtis, a sincere lover of nature for her own sake, by whom it was commenced in the year 1787, for the purpose, as its title-page still states, of making ladies and gentlemen scientifically acquainted with the plants they cultivate. At first, the numbers appeared at considerable intervals of time, but the rapid increase which, after the appearance of the few first volumes, took place in its sale, induced the publishers to make arrangements for its more speedy delivery. Artists of acknowledged talent were employed in preparing the plates, the drawings for which were at first supplied by Mr. James Sowerby, and eventually by Mr.

Sydenham Edwards, who, perhaps, has never been equalled for the skill he possessed of transferring an accurate resemblance of the largest plants to the small space of an octavo page. After the death of Mr. Curtis, the editorship was confided to Dr. John Sims, by whom it is now held. The work has arrived at the large extent of 52 volumes, and many hundred plates. The latter are now executed under the direction of Mr. Curtis, an artist of deserved reputation, and are remarkable for the fidelity with which they are prepared. The colours are, however, generally dim, and the letter-press is less copious than it used to be when the bodily health of the excellent and venerable writer was more vigorous.

The *Botanical Register*, which derived its origin from a misunderstanding between the proprietors of the Botanical Magazine and some of their previous supporters, was commenced in 1815, under the management of Mr. Sydenham Edwards, as draughtsman, and of John Bellenden Ker, Esq., an acute and very skilful botanist, to whom the Botanical Magazine had been for a long time principally indebted for its scientific reputation. The work has now reached the extent of 11 volumes and 948 plates, the latter parts of which have appeared under the direction of Mr. Lindley. The plates of this publication are better filled by their subjects than those of the Botanical Magazine, and the letter-press has altogether a different character. The latter may be considered as a register for the old school of botany, the former for the modern; this of the principles of the French botanists, and of those in this country who think with them, that of the opinions formerly inculcated by Linnæus.

The *Botanical Cabinet* was established in 1815, by Messrs. Loddiges, the celebrated nurserymen at Hackney, as a means of making the public acquainted, in a cheap form, with the plants in their own possession. It is an unpretending work, remarkable for the neatness of the figures and the useful information which it contains upon the cultivation of plants. It is the only publication of the kind in which we remember to have seen a feeling of religion the most distinguishing characteristic. It has now reached the extent of ten volumes and 1040 plates.

The *Exotic Flora* is a work of a different kind from any which have been yet noticed. While the others, from their cheapness, are altogether precluded the advantages of botanical dissections, the latter form a principal object of the Exotic Flora, which is published by Dr. Hooker, chiefly from materials afforded him by the botanic gardens of the northern parts of this kingdom. The execution of the work is like that of all the botanical publications of the indefatigable author, excellent; and its high price enables it to assume an appearance of finish and perfection, to which neither the Botanical Magazine nor Register can externally lay claim.

The *Geraniaceæ*, the *Cistineæ* and the *British Flower Garden*, are all three works carried on simultaneously by Mr. Robert Sweet, a well known excellent cultivator and good practical botanist. The *Geraniaceæ* will comprize all the species or varieties of that extensive and fashionable order which from time to time may make their appearance in the gardens. As hybrid varieties of all descriptions are included, the author's labour is not likely soon to terminate. We observe that Decandolle takes this work as the text-book of his species of Geraniaceæ. The *Cistineæ*, or history of the pretty tribe of plants called rock roses, is just commenced, and from what has yet appeared, seems likely to be a useful repository of figures, which we think are, upon the whole, both better drawn, and more carefully coloured than in the Geraniaceæ. The *British Flower Garden* is intended to represent such hardy plants as may appear deserving of notice. The execution of the letter-press is equal to that of the author's other works, but that of the plates bears no sort of comparison with the neatness and accuracy we are accustomed to expect in works of this nature. We hope this hint will not be thrown away upon the publishers.

The *Flora Conspicua* is a work lately brought forward by Mr. Richard Morris, and seems intended to include figures of all such plants as are handsome subjects for a fine plate, without regard to their novelty or importance otherwise. We confess we do not perceive the utility of this work as a botanical publication, but we must, nevertheless, do justice to the execution of the plates by Mr. Clark, which are really beautiful specimens of art. Such talents deserve to be better employed than in drawing and engraving subjects like Azalea Pontica, and other well known things.

The *Botanic Garden* is a little work published by Mr. B. Maund in monthly numbers, each containing one plate, representing figures of four plants neatly coloured, and four leaves of letter press. Like the Flora Conspicua it is destined to receive only hardy plants. The plates are very well executed, and do credit to the artists employed; but each subject being confined to a very small size, the largest and the smallest plants appear by the side of each other of the same dimensions; this inconvenience is however diminished by the degree in which the figure of a given plant is reduced below its natural size, being explained upon the plates. The letter press is respectably written; and is of much the same character as that of the Flora Conspicua.

Art. II. *Transactions of the Horticultural Society of London.* Vol. V. Bulmer & Co. 1824. Price £7.

The essence of all that is in the first four volumes of these Transactions, will be found in the second edition of the Encyclopædia of Gardening, including also a part of this fifth volume. We shall, therefore, begin at where we have left off; so that those who are in possession of the Encyclopædia, and who read this Magazine, will be made acquainted with every improvement published by the Horticultural Society.

In the Preface, which is dated December 1824, it is stated, that in this volume will be found "a greater variety of matter, interesting to the horticulturist, than is to be found in any of the preceding volumes." At the date of the Preface to Volume IV., "The total number of Fellows of the Society was 1520; it has since been augmented to 1915, making an absolute accession of near 400 in about two years and a half. The list of the Society contains altogether the names of 2197 persons connected with it, either as Fellows, Honorary Members, Foreign Members, or Corresponding Members; an extension which, in the infancy of its establishment, was never contemplated, and which certainly cannot be considered as having arrived at its maximum, since fresh additions are made at each succeeding meeting of the Society.

"The increase in the list of the Members has not arisen solely from British subjects: the knowledge of the operations and objects of the Society has so extended to foreign countries, as to induce the Sovereigns of several of the European states to honour it, by enrolling their names among its fellows; a circumstance which must prove highly beneficial, since it insures a ready protection and countenance to its communications with foreigners." *Pref.* p. 2.

The beneficial influence of the Society is noticed, "as inspiring a general taste for gardening; adding to our stock of fruits and vegetables, and encreasing the number of ornamental plants. For these purposes three collectors had been sent to different parts of the world, of whom it is melancholy to add, that only one, Mr. George Don, survives."

Mr. John Potts was sent to Bengal and China, and introduced a large stock of Chinese and Indian plants. He outlived his return but a few weeks, and died in October 1822.

Mr. John Forbes was sent to the east coast of Africa; he died at Senna, while making his way up the Zambezi river, in August 1823, having, during the interval between his departure from England, and the time of his death, enriched our collections with an unusual number of entirely new plants.

In the spring of 1823, Mr. John Damper Parks was sent to China, and obtained a great many plants of novelty and interest. In June 1823, Mr. David Douglas was sent to the United States, where he obtained many plants which were much wanted, and greatly increased our collection of fruit trees, by the acquisition of several sorts, only known to us by name. In July 1824, Mr. Douglas sailed for Colombia, on the north-west coast of America; a country rich in plants which will endure the open air in our gardens. His return is expected in 1826. In September 1824, Mr. James M'Rae was sent to the Sandwich Islands. The Society "has always evinced a becoming liberality in transmitting to various places abroad, such seeds and plants as were known to be wanting to the comfort of their inhabitants; and it has had the gratification to find, that in every quarter of the globe to which its influence has reached, these efforts have been duly appreciated, and met by a corresponding feeling. Indeed, there is scarcely any portion of the civilized world, in which there is not some one labouring with good will, to promote the interests of the Society." *Pref.* p. vii.

The library of the Society is increasing by gifts and purchases, the collection of drawings and of models in wax have become of considerable magnitude.

In the garden of the Society "the collections of fruit trees, and of hardy trees or shrubs, which it contains, may be pronounced the most complete that have ever been made in this or any other country; and although much remains to be done, the value of that which has been accomplished, in a period of little more than two years, must be evident to every one who visits the garden. As far as the general arrangement and formation are concerned, the works may be said to be nearly finished. Additional walls, however, lodges of entrance, and ranges of houses for the reception of plants, yet remain to be built. For these further expenses, it is hoped that sufficient funds may be provided." *Pref.* p. viii.

The number of papers in this volume is eighty-two, and two Appendices, by forty-four authors. The first, and one of the most valuable is,

On the different Species and Varieties of the Genus Brassica, and of the Genera allied to it, which are cultivated in Europe, &c. By Professor Decandolle.

We have noticed M. Decandolle's arrangement of the cultivated species, in the Encyclopædias of Gardening and Agriculture, and adopted it with some variation in the Encyclopædia of Plants. The most original part of his communication is what respects those varieties which are cultivated for their seeds, to be crushed for oil, from which it appears that, in Britain, we are not possessed of the most valuable variety for this purpose. This variety is the colsat or colsa, of the Flemish, and the brassica campestris oleifera, of Decandolle. "It would be desirable for agriculture," Mr. Decandolle observes, "that in all countries cultivators would examine whether the plant they rear is the brassica campestris oleifera, or the brassica napus oleifera, which can easily be ascertained by observing whether the young plant is rough or smooth; if hispid, it is the brassica campestris; if glabrous, the brassica napus. Experiments made by M. Gaujac, show the produce of the first compared to that of the second, to be as 955 to 700." The true colza or B. c. oleifera, is in Belgium generally sown about the middle of June in a piece of well manured garden ground, from whence it is transplanted after harvest into fields in good heart, which have been once ploughed after the corn has been removed. It is kept clean and top-dressed, or watered with liquid manure in November, after which it stands the winter, blossoms in the spring, and soon after runs to seed." *Decandolle. Radcliff's Flanders.*

We hope soon to hear of the seed of the Colsa being on sale at the shops of our agricultural seedsmen, and of trials being made with it against the common rape, which is the brassica napus oleifera of Decandolle; the B. napus of Linnæus, and of Eng. Bot. 2146.

In comparing the oil-bearing cruciferous plants together, Mr. Decandolle has the following observations:

> "Most of them, and perhaps the whole number, are susceptible of two different variations, the one having a thin, slender, slightly fleshy root, the other a thick and fleshy root: in general, those of the first kind bear a considerable quantity of seeds, and are cultivated throughout Europe as oleiferous vegetables; the others, on the contrary, bring few seeds to perfection, and are cultivated in general for their roots, as excellent for field or garden vegetables. So in the brassica oleracea, the varieties that have a thin stalk are cultivated for their seeds; and those that have swelled radicles are reserved for food. Among the varieties of the brassica campestris, which, by reason of its large seeds, appear to be eminently oleiferous, the colsa is the most productive, and has the thinnest root; for the produce of the oil, the ruta-baga and common napa brassica are much less useful. In the brassica rapa, the navette with a thin root is cultivated for its oily seeds, whilst the turnip, or brassica rapa depressa is used for food. In the brassica napus, the navette with a thin root is cultivated for its oil, and the

navet for the sake of its root. Lastly, in the raphanus sativus, the same circumstance again appears; the thin roots constantly belong to the many seeded varieties, whilst the thick fleshy roots are employed for culinary purposes only. A similar law may be observed in other cruciferous plants. The cochlearia armoracia (horseradish,) which has a very large thick root, rarely brings any seeds to perfection, whilst every other species of cochlearia produces them freely; this observation may be useful to guide cultivators in the choice of the varieties proper to try as oleiferous plants. If taken in a more extensive sense, it may serve to throw some light on the laws of vegetation in general, for we know it is not confined to cruciferous plants alone." — *Hort. Trans.* vol. v. part 1. page 42.

The cultivated cabbage, brassica oleracea, according to M. Sageret, a correspondent of Mr. Decandolle, a zealous cultivator, presents a singular phenomenon; that of being incapable of receiving fecundation from any but its own species. M. Sageret tried in vain the pollen of the brassica campestris oleifera, or colsa, as well as that of every other species of brassica; he then found out that it had a natural tendency to fecundate several other species of cabbages, and even the cultivated black radish, but it could not be impregnated by any except its own varieties. The colsa, the chou-navet, or white ruta-baga (*Brassica campestris napo-brassica*), and the navet-jaune, or common yellow ruta-baga (*Brassica campestris napo-brassica*, var. *ruta-baga*), appear to be hybrid products of the cabbage and turnip (*Brassica rapa*), taken in different degrees of culture and domestication; they are none of them capable of crossing the true cabbage, but may all become fruitful by its means; they can produce amongst themselves other cross races, which bring their own seeds to perfection. This manner of mixing in artificial breeds, shews that it forms a type sui generis.

The allied genera which are cultivated for oil plants, are sinapis, camelina, and raphanus. Sinapis alba is cultivated in the Vosges as an oleiferous plant, under the name of navet d'été, and sometimes it is called grain-de-beurre. The camelina sativa (*Eng. Bot.* 1767.) is cultivated in some provinces under the same name, and next to the true colsa, is the most productive among the oleiferous cruciferous plants. The radishes M. Decandolle divides into three races; the round, the long, and the oil-bearing. (See *Encyc. of Plants*, gen. Raphanus.) The Raphanus sativus oleifera, is a native of China, and is cultivated in Italy for its seeds. Instructions on the manner of cultivating it, have been published by M. Grandi, in his Istoria Cultura, 1807.

The succeeding papers to No. 54, have, as before observed, been noticed in their proper places, in the last edition of the Encyclopædia of Gardening.

54. *On the Cultivation of the Yellow Rose, and of the tender Chinese Roses, by budding on the Musk Cluster Rose. In a letter to the Secretary.* By John Williams, Esq. Corresponding Member of the Society. Read July 13. 1823.

The double Yellow Rose, which does not flower with Mr. Williams as a standard bush, flowered freely from buds inserted on strong shoots of a musk cluster rose, trained on the east front of a house. The buds were inserted ten feet from the ground; the same plan succeeded with the sweet scented and dark Chinese Roses; the blossoms of the latter were larger than usual, which Mr. Knight thinks is owing to "the distance the sap has to pass from the root before it reaches the flower-buds." At Cobham Hall, in Kent, the sweet scented Chinese rose is also found to do best on the musk species. In a note by the secretary, we are informed that in the garden of T. C. Palmer, Esq. of Bromley, in Kent, the double yellow rose will not live on its own roots, but budded on the common Chinese rose in April 1822, it grew so well as to produce upwards of thirty flower buds the following season. The bud put in in April had a little of the wood attached to it in the French or scollop manner of spring budding.

55. *On the Cultivation of the Arachis Hypogæa. In a letter to the Secretary.* By Mr. John Newman, Gardener to the Hon. Robert Fulke Greville, F.H.S. at Castle Hall, near Milford, South Wales. Read Aug. 17. 1823.

The Arachis Hypogæa is a leguminous plant, a native of Africa, but now naturalized in most of the European settlements of America. It is cultivated for the seeds, or nuts, as they are commonly called, which are roasted and used as chocolate. In China they extract an oil from these seeds, which is used both for lamps and for the table. The plant is annual in duration, and has herbaceous procumbent stems, with pinnate leaves, and gold-coloured axillary flowers on long peduncles. As soon as the flower begins to decay, the germ of the seed-pod thrusts itself under ground, and is there grown and ripened. Hence the reason why the seeds are called ground, or earth nuts. In our stoves Mr. Newman directs the seeds to be sown singly in February, and the plants, when six inches high, to be turned into the tan-pit, just after the pines have been shifted, a little below the surface of the tan, close to the curb of the pit. They will then form a beautiful edging without injuring the pines, as they seldom grow more than a foot in height. They should be taken up in the autumn, and the pods washed, and dried in the shade. One plant will produce from twenty to thirty pods.

56. *On the Treatment of the Banyan Tree (Ficus Indica), in the Conservatory. In a letter to the Secretary.* By Peter Rainier, Esq. Captain R.N. F.H.S. Read Jan. 20. 1824.

The Banyan Tree, in its native woods, sends down fibres from the under side of its horizontal branches, which reaching the earth increase in size, and ultimately become so many props, or additional stems to the tree. In captain Rainier's conservatory, these fibres damped off before they reached the soil; to prevent which he conducted them to it in rocket cases, filled with equal parts of white sand, and sifted loam. When the fibres had established themselves in the soil, the cases were removed, and the fibres soon increased to stems of the size of a quill, and were covered with bark the first year. In his conservatory at Southampton, Captain R. has now a Banyan tree with thirteen stems, the only one which he has seen in this country exhibiting its native character.

57. *Further Notes on the Utility of the Grafting Wax, described in a former paper. In a letter to Charles Holford, Esq. F.H.S.* By David Powell, Esq., communicated by Mr. Holford. Read Nov. 4. 1823.

This grafting wax is composed of 1lb. of pitch, 1lb. of resin, ½lb. of beeswax. ¼lb. of hogslard, ¼lb. of turpentine, melted and well mixed together. This composition is kept in a fluid state, by putting it in an earthen pan over boiling water; with a brush it is then spread evenly on sheets of moderately thin brown paper, which, when cold, is cut into slips about three quarters of an inch wide. The scion being fitted to the stock, take one of these slips; warm it by breathing on it, and bind it round the graft, when it will be found to serve the purpose both of matting and claying. The neatness and convenience of this method, Mr. Powell thinks, will recommend it to amateurs, and its cheapness and rapidity to practical gardeners.

The grafting wax was used in the comparatively infant state of horticulture, both in Britain and on the continent, but it is now every where giving way to grafting clay, as a substance more congenial to vegetation; retaining a more equable temperature and degree of moisture in the graft, than is likely to be done by a thin coating of any description of resinous matter. So far Mr. Powell's practice may be considered retrograding; but to the amateur, who had rather his hands smelt of wax than were crusted with clay, it may possibly be considered as an improvement.

58. *Some Remarks on the supposed Influence of the Pollen in Crossbreeding upon the Colour of the Seed-coats of Plants, and the Qualities of their Fruits.* By Thomas Andrew Knight, Esq. F.R.S. President. Read June 3. 1823.

This being a subject on which physiologists are far from being agreed, little advantage would result from discussing it here. Mr. Knight is of opinion "that neither the colour of the seed-coats, nor the form, taste or flavour of fruits are ever affected by the immediate influence of the pollen of a plant of another variety or species." A number of physiologists and gardeners, however, contend, that not only the colour of the seed-coats, but the size, taste, and flavour of fruits may be affected by the pollen of a variety of a different character. Cases of hybridized apples, melons, and other fruits, are said to be familiar to various cultivators. (See *Encyc. of Gard.* 823, 824.)

59. *An Account of a New Variety of Plum, called the Downton Imperatrice. In a letter to the Secretary.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read Dec. 2. 1823.

A hopeful fruit, originating from the white magnum bonum as the mother, and the blue imperatrice as the male parent. It is named by the Society the Downton Imperatrice; but as the specimens sent were the first fruit it had ever produced, it would rather be premature to say much as to character.

60. *Observations upon the Effects of Age upon Fruit Trees of different Kinds; with an Account of some new Varieties of Nectarines. In a letter to the Secretary.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read March 2. 1824.

Desultory remarks "upon the question, whether each variety have its period of youth, of maturity, and of old age, and be formed for a limited period of duration only; or whether each be capable of eternal propagation, with undiminished health and vigour." This is a difficult subject, and it is to be regretted that the President has so few co-operators in experimenting on it. His opinion is known to be in favor of the idea, that varieties are formed for a limited period of duration only; but he has brought forward nothing to disprove, that if a variety be renovated by frequent propagation, it may not last and retain all its properties for ever. For example, suppose the golden pippin to be at present in full perfection as a variety of apple; take healthy scions from a tree, and graft them on healthy stocks; the produce of these scions will be of the same quality as those of the parent tree; while this offspring tree is in full vigour, take scions from it, and graft them on healthy stocks as before; the same quality of fruit in an equal degree of perfection will be produced. Now, the question is, whether this process might not go on for an unlimited period, care always being taken to take off the scions for the purpose of renovation, before the tree they were taken from, became diseased or decayed? At the same time, it is an unquestionable fact, that the varieties of some species of fruit which have been long cultivated, are now degenerated; but whether this is the consequence of neglect of timely renovation, or whether it arises from the constitution of the variety, is very uncertain, and not likely to be soon determined from facts. That some varieties are constitutionally more apt to degenerate than others, is within the limits of every gardener's experience; and equally so the counteracting influence of frequent renovation. From the results of Mr. Knight's experience, he infers "that the debility and diseases of old varieties arise from the want of a properly prepared circulating fluid; and that when such is given by efficient foliage, the bark of the most debilitated variety possesses the power to occasion the necessary secretions to take place, and the alburnum is enabled to execute all its offices." The foliage could never be otherwise than efficient, or the bark than healthy under a system of frequent renovation; and therefore it is difficult to avoid concluding, that such a system would keep up any variety in perfection for ever. It certainly seems to do so with some varieties of plants commonly cultivated; as willows, poplars, vines, figs, &c., which are certainly not often re-originated from seed. But this subject can hardly be treated with advantage without considering together the whole that has been advanced on it; and we shall leave off, only observing, that even the conjectures of a philosopher who has studied the subject for so long a period as Mr. Knight, deserve the utmost respect. In this paper, these conjectures are much more consonant with common experience, than in several of the essays which appeared in the Philosophical Transactions.

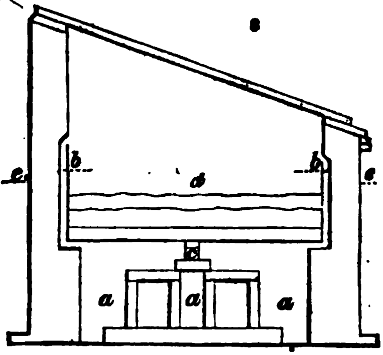
The account of new varieties of nectarines, mentioned in the title to the paper, merely refers to a remark, that good varieties may be raised from seed, and that the president sent to the secretary in the last autumn, "many new varieties of nectarines, raised from seeds of the Elruge, and the pollen of the early violet nectarine. They were the produce of buds, inserted into the bearing branches of old peach and nectarine trees, growing upon my walls, the original seedling trees not having been retained in my garden." The practical gardener may observe the ingenuity of this mode, and the room and trouble saved by it: the first season of the growth of the seedling, a bud is taken from it, and inserted in the branch of any old tree, while the seedling itself is thrown away, and all the labour that would have been required to raise it to a bearing tree, wholly avoided. (See *Encyc. of Gard.* §12014.)

61. *On a Hybrid Amaryllis produced between Amaryllis vittata, and Amaryllis Regina-vittata. In a letter to the Secretary.* By James Robert Gowen, Esq. F.H.S. Read May 1. 1823.

The production alluded to, is a splendid hybrid, which is all we can say about it. Mr. Gowen thinks that the term hybrid should be limited to such productions from cross breeding as are sterile. When by the artificial union of two distinct species of the same genus, a progeny is raised capable of propagating itself by seed, he thinks the parent plants have not been originally distinct species, but the offspring of one species, which, being disseminated over extensive regions, differing in elevation, temperature, soil, and humidity, have assumed, in the course of ages, varied forms and colours of leaves and corolla, constituting distinctions so striking as to be rendered specific. He acknowledges however his doubt, as to the law which governs these artifical productions.

62. *On the Cultivation of the Pine-Apple. In a letter to the Secretary.* By Mr. Alexander Stewart, Gardener to Sir Robert Preston, Bart. at Valleyfield, near Culross, Perthshire. Read Dec. 2. 1823.

The culture of the pine-apple, is by no means so well understood in Scotland as in England; the plants are kept in too dry an atmosphere generally, and not allowed sufficient heat and moisture in the summer season. Early in 1820, Mr. Stewart felt very desirous to grow pines without the aid of tan, and with more steam than he had hitherto been able



to do. He therefore ~~got~~ a pit ~~(fig. 8.)~~ in which he built two flues (*a*, *a*,) and supported over them, on brick props (*c*), a flooring of pavement, covered with a layer of gravel and sand (*d*), on which to place the pots; at the sides were openings (*b*, *b*), to admit the heated air from below to to warm the atmosphere of the plants; the upper level of the platform on which the plants stand, is nearly on a level with the external surface (*e*, *e*). The pots of plants are set on the sand, so that when moisture is added either to it or to the plants, it causes a fine gentle steam to arise through the whole of the pit, which can be regulated at pleasure, by adding more or less fire according to the season or other circumstances. ~~After nearly three years experience, Mr. Stewart is "fully convinced" that tan is quite~~ unnecessary not ~~only as a source of bottom heat, but even for rooting the crowns and suckers.—~~ "The temperature kept during the spring and summer is from eighty to a hundred degrees through the day, and as low as from sixty-five to sixty degrees during the night; in the autumn and winter it is as low as fifty-five or fifty degrees." He has no hesitation in stating that where coals are moderate in price, it is the cheapest plan he has seen adopted; and he sends the particulars to the horticultural society, "in hopes that they may assist in establishing" Mr. Knight's views on the subject of cultivating the pine-apple.

63. *Description of a Pear Tree, on which the Operation of Reverse Grafting has been performed. In a letter to the Secretary.* By Mr. William Balfour, Gardener to Earl Grey, at Howick, in Northumberland. Read Nov. 4. 1823.

The usual defect of horizontally trained trees, viz.: barrenness to some distance on either side of the main stem, led Mr. Balfour to grafting reversely on the under side of the horizontal branches. The scions for this method are inserted in the same manner as in rind grafting; they take freely and bear abundantly. The advantages of the plan are, curing the barrenness in the centre; growing several kinds of pear upon one tree, which for small families is an advantage; as a full grown pear-tree, bearing a moderate crop in many kinds, yields more fruit than can be consumed before that kind begins to decay. All these advantages, however, may be much more readily attained by reversing young side shoots to cover the centre of the tree, or by grafting some of the horizontal shoots where they issue from the main stem in the usual manner. A tree grafted in the reverse manner (fig. 9.) may be curious, but it certainly is not an elegant object.

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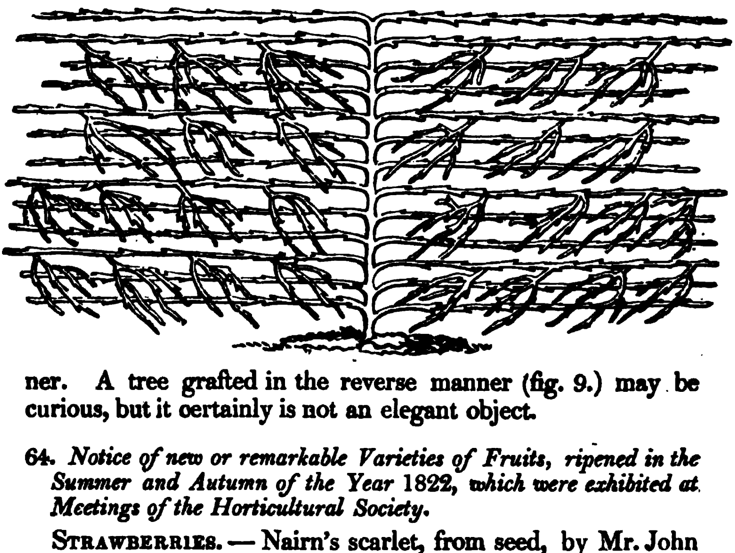

64. *Notice of new or remarkable Varieties of Fruits, ripened in the Summer and Autumn of the Year* 1822, *which were exhibited at Meetings of the Horticultural Society.*

STRAWBERRIES. — Nairn's scarlet, from seed, by Mr. John Nairn, gardener to Thomas Forbes Reynolds, Esq. at Hackbridge, in Surrey.

Wilmot's black imperial, from seed, from Keens' imperial.

Grove End scarlet, from seed, by William Atkinson, Esq., Grove End, Marylebone.

PEACH. — Spring Grove Persian peach, from a stone received from Persia, and grown by Mr. Isaac Oldacre, at Lady Banks's, Spring Grove, Hounslow.

GRAPE. — Elford's seedling grape, from seed sown in January 1821, and now exhibited on the 1st of October 1822, being a remarkable instance of a vine bearing fruit in the first year from seed. It is a tolerably good grape. By Mr. William Buck, gardener to the Hon. F. G. Howard, at Elford, near Lichfield.

APPLES. — The Jubilee pippin, from seed sown in the year of the jubilee, 1809, in the garden of Michael Bland, Esq. at Norwich.

Bere Court pippin, from seed sown in his garden at Bere Court, near Pangbourne, Berkshire, by the Rev. J. S. Breedon.

Cray pippin, from seed in his garden at St. Mary's Cray, Kent, by R. Waring, Esq.

Stoney Royd pippin, from the seed of an American apple, in the garden of Mrs. Rawson of Halifax, in Yorkshire.

Esopus Spitzenberg apple, an American sort requiring the protection of a wall, large, beautiful, and of an exquisite flavour. It is said to have been originated in the neighbourhood of Albany. By George Caswell, Esq. in his garden at Sacoombe Park, Hertfordshire.

Claygate pearmain, the produce of a bud taken from a seedling tree, in a hedge-row in the hamlet of Claygate, near Thames Ditton, by John Braddick, Esq. in his garden at Thames Ditton.

Fruit of the ANONA SQUAMOSA, or custard apple, ripened in the stove of Earl Powis, at Walcot Hall, Shropshire. This is believed to be the first instance of this delicate fruit coming to maturity in this country.

65. *Description of some New Pears.* By Mr. John Turner, F.L.S. Assistant Secretary.

To copy or abridge these descriptions here would be of little use; where they stand they may serve as preparations for that general descriptive catalogue of fruits which it is to be hoped the Horticultural Society will be able to publish at no very distant period.

66. *Account and Description of Five new Chinese Chrysanthemums; with some Observations on the Treatment of all the Kinds at present cultivated in England; and on other Circumstances relating to the Varieties generally.* By Joseph Sabine, Esq. F.R.S. &c. Secretary. Read April 20. 1824.

This is a long paper chiefly descriptive and historical, but from which we find nothing sufficiently interesting to extract, excepting that most or all of the sorts thrive very well when planted at the base of a south wall, and trained against it. In such a situation they will stand the severity of a winter like that "of 1822-3, which was very trying generally to tender plants, without other protection than mulching their roots. It is desirable that the old roots should remain, and not be replaced by young plants when thus cultivated, because the stronger they are the more branches will be produced, and on the number of these the superiority of their beauty depends."

(*To be continued.*)

ART. III. *List of Works on Gardening, Agriculture, Botany, Domestic Economy, &c. published since January* 1824*; including new Editions and Translations.*

ENGLAND, 1824.

TRANSACTIONS of the Linnæan Society of London, Vol. XIV. Part ii. London, 4to.

Tredgold, Thomas. Principles of Warming and Ventilating Public Buildings. London, 8vo.

Watkins, Thomas. The Art of promoting the Growth of the Cucumber and Melon. London, 8vo.

Morris, Richard, F.L.S. The Botanist's Manual, a Catalogue of hardy Exotic and Indigenous Plants. London, 12mo.

Forsyth W. A Treatise on the Culture and Management of Fruit Trees. 7th edition, London, 8vo.

Smith, Sir *James Edward.* The English Flora. Vols. I. II. London, 8vo.

Greville, R. K. Flora Edinensis; or, a Decription of Plants growing near Edinburgh. Edinburgh, 8vo.

Roscoe, William. Monandrian Plants. London, folio.

Purton Thomas, Member of the Royal College of Surgeons. An Appendix to the Midland Flora. 8vo. London.

Huber Francis. New Observations on the Natural History of Bees. 12mo. London,

Livington, F. D. An Essay on the Culture of the Gooseberry. London.

Butt, The Rev. *J. M. T.*, M. A. Vicar of East Garston, Berkshire. An Introduction to English Botany, upon a new Method. 12mo. London.

Drummond, James L., M.D., Surgeon, Professor of Anatomy and Physiology in the Belfast Academical Institution, First Steps to Botany, 1 Vol.

Bliss, G. Gardener. The Fruit Grower's Instructor; or, a Practical Treatise on Fruit Trees, from the Nursery to Maturity. 8vo. London.

Western, C. C. Esq. M.P. Practical Remarks on the Management and Improvement of Grass Land, as far as relates to Irrigation, Winter-flooding, and Drainage, in a Letter to the Landowners, &c. of the County of Essex. 8vo. London.

Hooker, William Jackson, F.R.S., A.S.L. &c. and *Thomas Taylor,* M.D. M.R.I.A. and F.L.S. &c. Muscologia Britannica; containing the Mosses of Great Britain and Ireland, systematically arranged and described; with Plates illustrative of the Character of the Genera and Species. 8vo. London.

Maund, B. The Botanic Garden; or, Magazine of Hardy Flower Plants, cultivated in Great Britain. Lond. 4to. with Plates.

1825.

Transactions of the Linnæan Society of London. Vol. XIV. part iii. London, 4to.

Smith, Sir *James Edward.* The English Flora, Vol. III. London, 8vo.

Don, David. F.L.S. Prodromus Floræ Nepalensis. London, 12mo.

Morris, Richard, F.L.S. Flora Conspicua. London, 8vo. In numbers monthly.

2. Essays on Landscape Gardening. 4to. London.

Greville, R. K. Scottish Cryptogamic Flora, Vol. III. Edinburgh, 8vo.

Lindley, John, F.L.S. Report upon the New and Rare Plants which have flowered at the Garden of the Horticultural Society, &c. London, 4to.

2. Instructions for the Packing of Seeds and Plants, in foreign Countries. 8vo. London.

Sweet, Robert, F.L.S. The Hothouse and Greenhouse Manual, or Botanical Cultivator, 2d edition. London, 8vo.

Partington, C. F., of the London Institution, The Builder's Complete Guide; comprehending the Theory and Practice of the various Branches of Architecture, Bricklaying, Brickmaking, Masonry, Carpentry, Joinery, Painting and Plumbing. London, 8vo.

Winch, N. J. An Essay on the Geographical Distribution of Plants, &c. Newcastle, 8vo. 2d edition.

Billington, William, Member of the Caledonian Horticultural Society, and Superintendant of the inclosing, fencing, draining, and planting 1,100 Acres of Land in the Forest of Dean, and of some Woodlands at Chopwell in the County of Durham, belonging to His Majesty, and formerly Gardener to the Right Hon. Lord Yarborough, and the Earl of Haddington, A Series of Facts, Hints, Observations, and Experiments on the different Modes adopted for raising Plantations of Oaks "for future Navies" from the Acorn Seedling, and larger Plants; shewing the Difficulties and Objections that have occurred in the practical Part; with experimental Remarks upon fencing, draining, planting, pruning, and training the Young Trees; with a clear and copious Statement of the early great Profits and Advantages that may be derived from Plantations of mixed Trees, planted as Nurses or Shelter to the Oaks, by timely Care and Attention, and the contrary Effects from Negligence or erroneous Management of Young Plantations; also how Trees are retarded or accelerated in their Growth from various Causes. The whole derived from actual Experience upon the most extended Scale; with some experimental Facts and Hints upon Fruit Trees and Herbs. London. 8vo.

Watson, J. E. The Housewife's Directory, being the most complete System of Domestic Economy ever submitted to public notice, including every kind of Instruction in Cooking, Pickling, Preserving, &c. London.

Brereton, A.M. the Rev. *C. D.* rector of Little Massingham, Norfolk. A Practical Inquiry into the Number, Means of Employment, and Wages of Agricultural Labourers. 8vo. London.

2. An Inquiry into the Workhouse System, and the Law of Maintenance in Agricultural Districts. 8vo. London.

3. Observations on the Administration of the Poor Laws in Agricultural Districts. 8vo. London.

Hayward, Joseph, Author of the Science of Horticulture. The Science of Agriculture, comprising a Commentary on and comparative Investigation of the Agricultural Chemistry of Mr. Kirwan and Sir Humphrey Davy; and the Code of Agriculture of Sir John Sinclair, Sir Joseph Banks, and other authors on the subject. With Remarks on the Rust or Black Blight in Wheat; of which the true cause and its prevention are explained. Lond. 8vo.

A Treatise on Milk. London, 8vo.

Peall, Thomas, Veterinary Professor, Dublin A Treatise on the Foot Rot in Sheep; including Remarks on the exciting Cause, Method of Cure, and Means of preventing that destructive Malady. 8vo. London.

Bullock, W. F.L.S. Proprietor of the late London Museum. Six months' Residence and Travels in Mexico, containing Remarks on the State of Society, Agriculture, &c. 2 vols. 8vo. London.

Sinclair, George, F.L.S. author of the Hortus Gramineus Woburnensis. An Essay on the Weeds of Agriculture, with their common and botanical names. London, 8vo.

Sweet, Robert, F.L.S. Cistineæ; or, a complete History of that beautiful tribe of Plants, called Cistus, or Rock-Rose. London, 8vo.

Bayldon, J. S., land agent and appraiser. The Art of valuing Rents and Tillages, and the Tenant's Right on entering and quitting Farms. 2d edit. 8vo. London.

Lambert, Aylmer Bourke, F.R.S. F.S.A. Genus Pinus, Vol. II. Imperial, folio. London.

M'Adam, J. L. Observations on the Management of Trusts for the Care of Turnpike Roads, &c. 8vo. London.

Dacre, Rev. B., A.L.S. Testimonies in favor of Salt as a Manure, and a Condiment for Horses, Cows, and Sheep, &c. 8vo. London.

Hamilton, Gulielmus. Prodromus Plantarum Indiæ Occidentalis, &c. 8vo. London.

Buchanan, George, civil engineer. A Treatise on Road Making, Railways, Wheel Carriages, and the Strength of Animals.

Clater, Francis, late of Retford, chemist and druggist. Every Man his own Cattle Doctor, containing the Causes, Symptoms, and Treatment of all the Diseases incident to Oxen, Cows, and Sheep. 8vo. London.

Kilchiner William, M.D., author of the Cook's Oracle, &c. The Housekeeper's Ledger, a plain and easy Plan of keeping accurate Accounts of the Expences of Housekeeping, and the Elements of Domestic Economy. 8vo. London.

Holland, Mary, author of the Complete Economical Cook. The Modern Family Receipt Book. 1 vol. 12mo. London.

Slaney, Robert A. barrister at law. Essay on the Beneficial Direction of Rural Expenditure.

FRANCE, 1824.

Vibert, J. P. Observations sur la Nomenclature et le Classement des Roses. Paris, 8vo.

Lindley, John. Monographie du genre Rosier, traduite par M. de Pronville. Paris, sans figures.

Dutrochet, M. H. Recherches Anatomiques et Physiologiques sur la Structure interne des Animaux et des Végétaux, et sur leur Motilité. Paris, 8vo.

Richard, Achille. Monographie de la Famille des Elæagnées. Paris, 4to.

Hilaire Auguste St. Plantes usuelles des Braziliens. Paris, No. 1. 4to.

St. Hilaire, Jaume. Traité des Arbres Fruitiers. 12 Nos. Paris 8vo.

Dralet. Traité du Hêtre et de son Aménagement, &c. Toulouse, 8vo.

Kunth, C. S. Synopsis Plantarum quas in itinere ad plagam æquinoctialem Orbis novi collegerunt Al. de Humboldt, et Am. Bonpland. Vol. 3. Paris, 8vo.

La Guide du Cultivateur et du Fleuriste. Bourdeaux, 12mo.

Petit Thouars, Aubert du. Sur la Formation des Arbres Naturelles ou Artificielles. Paris, 8vo.

Fee, A. L. A. Essai sur les Cryptogames des écorces Exotiques Officinales. Paris, 4to.

Jussieu, Adrianus. De Euphorbiacearum generibus, etc. tentamen. Paris. 4to.

Decandolle, Aug. Pyr. Rapport sur les Plantes rares ou nouvelles du Jardin de Botanique de Genève. Geneva, 4to.

2. Prodromus Systematis Naturalis Regni Vegetabilis. Vol. I. Paris, 8vo.

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Jussieu, Adrien de. Monographie du Genre Phebalium. Paris, 4to.

Brogniart, Ad. Essai d'une Classification Naturelle des Champignons. Paris, 8vo.

Brogniart, Ad. Observations sur les genres Cytisus et Nepenthes. Paris, 8vo.

Chevalier, F. F. Histoire Generale des Hypoxylous. Paris, 4to.

Bailly, C. Consideration sur l'Incision Annulaire, ses Causes, ses Effets, et particulièrement son Emploi dans la Culture de la Vigne. Paris, 12mo

Richard, Achille. Nouveaux Elémens de Botanique, &c. 8vo. Paris.

Guillemin, J. B. A. Récherches Microscopiques sur le Pollen. Paris 4to.

Desmazières. Plantes cryptogames du Nord de la France. Lille.

Decandolle, A. P. Mémoires sur la Famille des Légumineuses. 4to.

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Berg., C.F.W. Monographie des Pfropfens, oder Technologische Beschreibung der Verschiedenen Pfropfarten, &c. Leipsig. 4to.

Enumeratio stirpium Phanerogamarum quæ in Silesia sponte proveniunt. Wratislaviæ. 8vo.

Hepp, Ph. Lichenen-Flora zur Würtzburgh. Maintz. 8vo.

Steudel, Ernest. Nomenclator Botanicus enumerans Ordine alphabetico nomina atque Synonyma tum Generica tum Specifica, &c. Vol. i. pt. 1 & 2. Stuttgardt. 8vo.

Metzger, J. Europaische cerealien in botanischer und landwirthschaftl. hinsicht. Heidelberg. Fol.

Welden, Ludw. Freyh. v. Der monte rosa; eine topographisch-natur historische skizze. *Wien.*

Schultz. Recensio generum Barbulæ et Syntrichiæ.

Reinwardt, C. G. C. Oratio de Argumentis quæ Historiæ Naturali ex Indiæ Investigatione accesserunt &c.

Trattinnick, Leopold. Synodus botanica *Vol. IV.* de Potentilla. Vindobonæ. 12mo.

Lehmann, I. G. C. Icones et Descriptiones novarum et minus cognitarum Stirpium, fasc. 3-4, fol. Hamburgh.

Schriften der gesellschaft zur beforderung der gesammten naturwiss, zu Marburg. *Vol. I.*

Acta societatis Naturæ scrutatorum Lipsiensis. Vol. I. *with 7 plates.* Leipsig. 4to.

Voit, F. S. Wörterbuch der Botanische Kunstspräche. Jena.

Katechismus der botanik, oder anleitung zur naturgeschichte des Pflanzenreichs. Leipzig.

Viviani, Dominicus. Floræ Lybicæ Specimen, sive Plantarum Enumeratio Cyrenaicum, Pentapolim, Magnæ Syrtus desertum, et Regionem Tripolitanam incolentium &c. &c. Genuæ. Fol.

Graumuller, J. Ch. Fr. Flora Jenensis oder Beschreibung der in der Nähe v. Jena wildwachsenden Pflanzen &c. Eisenburg.

Kaulfuss, George Frid. Enumeratio Filicum quas in itinere circa terram legit Adalbertus de Chamisso, &c. Lipsiæ. 8vo.

Funck, G. C. Cryptogamische gewächse besonders des Fichtelgebirgs.

Buck, J. N. Hortus Francofurtensis, oder Verzeichniss der in seinem Garten cultivirten Gewächse mit hinzufügung der in der Nähe Frankfurt wildwachsenden pflanzen. Frankfort on the Oder. 8vo.

Dierbach. Terminologie botanique des Siècles qui ont précédé la Réforme de la Botanique.

Verhandlungen des Vereins zur Beforderung des Garten-baues in den Königl. Preussichen Staaten. Vol. I. 4to. Berlin.

Göthe. Zur Naturwissenschaft überhaupt, besonders zur Morphologie. Stuttgard & Tübingen.

Eschweiler, Fr. G. Systema Lichenum, genera exhibens, rite distincta, pluribus novis adaucta. Norimbergæ.

Link, H. F. Elementa Philosophiæ Botanicæ. Berolini. 8vo.

Colla, Aloys. Hortus Ripulensis seu Enumeratio Plantarum quæ Ripulis coluntur. Turin, 4to.

Bönninghausen, C. M. F. a. Prodromus Floræ Monasteriensis Westphalorum; Phanerogamia. Regensburg, 8vo.

Agardh, C. A. Systema Algarum. Lund, 8vo.

Wahlenberg, G. Flora Suecica. Upsal. 8vo.
Henschel, Aug. G.B. Th. Commentatio de Aristotele Botanico-philosoph. Breslau. 4to.
Röper, J. Enumeratio Euphorbiarum quæ in Germania et Pannonia gignuntur. Gottingæ, 4to.
Schouw, Joachim Frederik. Grundzüge einer Allgemeinen Pflanzen geographie. Berlin, 8vo. mit einem Atlas.
Romer and *Schultz.* Mantissa in Volumen secundum Systematis Vegetabilium. Stuttgardt, 8vo.
Nees v. Esenbeck. Vollständige Sammlung Officineller Pflanzen. 8te. und 9te. Liepsung, fol.
2. Nova Acta Physico-medica Acad. Cæs. Leopoldino-Carolinæ Naturæ Curiosorum. Vol. XII. part i. Bonnæ, 4to.
3. Fungorum Javanicorum Prodromus. Bonnæ. fol.
4. Robert Brown's Vermischte Botanische Schriften aus dem Englischen ubersetzt, &c. Leipzig, 8vo. Vols. I. II.
5. Die Deutschen's Brombeersträuche Fol. Elberfeld.
Martius, Dr. Die Physiognomie des Pflanzenreiches in Brazilien. Munich, 4to.
2. Palmarum Familia ejusque Genera denùo illustrata; Programma. 4to. Monachii.
3. Nova Genera et Species Plantarum quas in Itinere per Braziliam, &c. collegit et descripsit. Pingendas curavit, &c. Dr. *J. G. Zuccarini,* Fasc. 1. et 2. Fol. Monachii.
Reichenbach, Lud. Magazin der Garten Botanik, No. 13. Leipsig.
2. Icones et Descriptiones Plantarum cultarum et colendarum, &c. Parts I.—XII.
3. Iconographia Botanica, sur Icones Plantarum rariorum, &c. Parts VI. to X. Leipsig, 4to.
4. Illustratio Generis Aconiti atque Delphinii. Fasc. I.—VI. fol.
Bartling, J. et *Wendland H.L.* Diosmeæ descriptæ et illustratæ. Gottingæ.
Bartling, Fr. Gottl. und *Wendland, Heinr. Lud.* Beiträge zur Botanik. 8vo. Gottingen.
Carey, W. and *Wallich, Nath.* Flora Indica; or, Descriptions of Indian Plants, Vol. II. Serampore, 8vo.

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Hall, J. C. Van. Flora Belgii Septentrionalis. 8vo. Amsterdam. Vol. I.
Lomeni, Ignaz. Del Riso Cinese. 8vo. Milan.
Giacinto, Carlo. Mezzo Stabile di Prosperità per le Isole di Malta e Gozo. Malta, 8vo.
Sprengel, Curt. Systema Vegetabilium, Vols. I. II. Gottingæ, 8vo.
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Neues Allgemeines Garten-Magazin. Weimar. 4to. Vol. I.

AMERICA, 1824.

Coxe, W. A View of the Cultivation of Fruit Trees, and the Management of Orchards and Cider. Philadelphia, 8vo.
Llave, Paullo de la, et *Lexarsa, Johannes.* Novorum Vegetabilium Descriptiones, Fasc. I. 8vo. Mexico.

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Llave, Paullo de la, et *Lexarza, Johannes.* Novorum Vegetabilium Descriptiones, Fasc. II. 8vo. Mexico.
Barton, W. P. C., M. D. A Flora of North America, 3 vols. 4to.
American Farmer, Vol. VI. 4to.
The Plowboy, Vol. II. 4to.
The New England Farmer, Vol. IV. 4to. Baltimore.

PART III.

INTELLIGENCE.

Art. I. *Foreign Notices.*

FRANCE.

Agriculture of the Island of Corsica. In a work on this subject by M. Vigarous, it is stated that there are wastes of great extent, called *makis*, on which the following plants grow to a monstrous size: Cistus monspeliensis, Erica multiflora, vulgaris, and other species, Pistacia lentiscus, Arbutus unedo, Lavandula stæchas, and spicata, Lonicera grata, and other species, Genista Anglica, Myrtus communis, Asphodelus, Helleborus, Ferula, Digitalis, &c. These fine plants form such an impervious mass of vegetation, that the first step towards culture is to set fire to them. There are many forests in which the principal tree is the Pinus laricio, in many instances 100 feet high, and four feet diameter at the base. Of this valuable species of pine there are now plants to be had in several of the London nurseries, and it is perhaps as well, or better worth culture, as that too frequently despised tree the Pinus sylvestris. In general appearance it has a strong resemblance to that species; but it exceeds it in rapidity of growth in a most extraordinary degree. We have been told, upon undoubted authority, that a young individual of each species was planted in 1817 upon a sandy hill in one of the coldest of our eastern counties. About a twelvemonth since it was found that while the Scotch pine had reached no higher than six or seven feet, the P. laricio was at least twelve feet high.

Repeopling Wastes and Waters. A society in France, who style themselves "Société Anonyme de Fructification générale," propose in fifteen years to put in productive culture about 20,000,000 of acres of waste land, and to render productive 120,000 leagues of watercourses, "which, deprived of their antient shades, do not contain above the twentieth part of the fish which they contained only forty years ago." As a condition, the society demands a ninety-nine years' lease of all the uncultivated lands and waters of France; their fund is to be 100,000,000, and they are to pay 5 per cent. to the subscribers.

Sheep of Thibet. A variety of species called *purick* is said to produce the wool used in the manufacture of cashmere shawls.—(*Journ. des Comm. Usu. et Prat. by M. Lasteyrie*, No. 1., and *Asiatic Journ.* vol. i.)

Grafting the Pine and Fir Tribe. The Baron de Tschudy has made a great many experiments on grafting trees and herbaceous plants, some of which we have noticed in the second edition of the Encyclopædia of Gardening. The pine and fir tribe he inoculates before the buds have pushed, which is found to succeed much better than any other mode. In herbaceous vegetables, he has grafted the melon on the briony, the result of which was, fruit of the size of a citron, very sweet. The artichoke he grafted on the cardoon, the cauliflower on cabbage, love apples on potatoes, and so on. — (*Ann. de l'Agr. Franc.* t. xxix.)

Dodder. A French cultivator, who found his lucerne very much injured by this parasite, recollecting that it germinates in the soil, and that it is the shoots that attach themselves to the stalks of the lucerne, adopted the plan of cutting the latter frequently early in the season, by which the dodder, which is an annual plant, could not fix itself, and died.

Distillation from Plums. An excellent spirit is obtained from the bruised pulp and kernel, fermented with honey and flour, and distilled in the usual manner. — *Jour. du Midi. Fevrier*, 1825.

Goats of Thibet. M. Ternaux has obtained great praise throughout France for the Introduction of these animals, which seem to thrive in all the climates of that country. " The heat of the departments of the south, and the cold of the highest mountains, such as the Pyrenees, the Mount d'Or, and the Vosges seem equally to agree with them." — *Constitut. Avril*, 1825.

Potatoes. Voltaire, it seems, was the first to call the attention of the French to this valuable tuber in 1777, and after him, Parmentier and Cadet de Vaux.

Code of Agriculture. This work has been translated into French by M. Mathieu de Dombasle, under the title of " L'Agriculture Pratique et Raisonnée;" because, says the translator, the word " code" conveys the idea of a collection of particular laws.

Destruction of Ants. The first mode is to sprinkle snuff over them; the second consists in mixing soot with oil of hemp-seed, and sprinkling the mixture on the plant it is wished to preserve. The odour is said to be insupportable both to ants and bugs.

American Cranberry and Oak Leaves. Some of the German journals are only translating in 1824, the culture of the former plant, and the use of the leaves as a substitute for tan or dung, from the Horticultural Transactions for 1808, and Speechley's Treatise on the Vine for 1790. — *Bullet. Univ. Sept.* 1825.

Thunder and Hail. A society for mutual assurance against storms of this description in France, is proposed by M. Tessier in the Annales de l'Agriculture Françoise, t. xxx.

Preserving Potatoes in a dried state. Wash them, cut them in pieces, steep them forty-eight hours in lime water, then forty-eight hours in fresh water; dry them in an oven. One hundred parts of fresh potatoes will give thirty so prepared and dried. In this state they may be kept for years, or ground at once into flour. This flour mixed with a third part of that of rye, is said to make an excellent bread. The same author proposes to moisten potatoes dried as above with olive oil, and then to grind them, and use them as coffee.

How to make the most of Unripe Melons. Boil them, and season them with spices and salt, or bake them like pumpkin pie.

Pine Apple. A manufacturer who has a steam-engine, is said to have conceived the happy idea of applying the spare steam to the culture of this fruit; of course the result was, fruit of a superior quality to those grown in the ordinary way. — *Jour. Hebdom. Paris, May* 1825.

Primula sinensis. This plant is greatly prized in France and in the Netherlands, where, under the protection of glass, without fire-heat, it flowers most abundantly the whole year. — *Ann de la Soc. Linn. de Paris, Mars* 1825.

Ringing Fruit Trees. A pamphlet has been published on this subject by M. C. Bailly, of Paris; it is in two parts, the first treating of the effect of ringing on fruit trees in general, and the second of the effect of ringing the vine.

1st. Ringing increases the diameter of the parts of trees, but not their length; a fact, explained by the theory of the ascending and descending sap. The latter is arrested in its progress by the circular incision, as is proved by the thick edge which takes place on the upper margin of the wound, and by the diameter of the shoot, which, in the vine in particular, acquires double the thickness above the wound that it does below it.

But in proportion as the shoots are benefited by ringing, the roots are injured by the want of the regular circulation of the descending sap; the great art, therefore, is to adjust the dimension of the incision to the degree of sufferance which the system of roots can undergo, without material injury.

2d. The effect of ringing vines which have ligneous stems, is similar to that produced on fruit trees in general, and, therefore, M. Bailly confines himself to the effects of ringing those vines which are annually cut down to low stools, as is the case in most of the vineyards of France. To vines of this description he considers the practice disadvantageous, as weakening the root; but he excepts certain cases, in which as in provins, the shoots are annually laid down and covered with earth; and says, if it could be so contrived as to nourish the young shoots from the fibres produced at the incision, when it is buried in the soil, and thus dispense with the large ramose roots often unfurnished with fibres, and which only serve to consume the sap prepared by the leaves, it would be of great advantage.

Horticultural Society in Paris. We are happy to be enabled to state, that hopes are entertained by the amateurs of gardening in France, to be enabled to form a Horticultural Society, which may be similar to that established in England. Barons Ferussac and Mortemart-Boisse, the latter of whom we last year saw in England, have been using their influence and personal exertions to bring about this desirable event. We know no country in which an establishment for horticultural purposes is more needed than in France.

GERMANY.

Mountain Rice. It is proposed to acclimatize this grain in the Duchy of Baden. The directions given by M. de Hermann for its acclimatization, are as follow: 1. choose a situation as little as possible exposed to sudden cold; 2. sow it on a hot-bed, and transplant it after the frosts of spring; 3. sow it sufficiently early to ripen in September; 4. choose the very best seed; 5. sow every year a little earlier; 6. transplant every year a little earlier; 7. if these practices succeed, try sowing where the plants are finally to remain; 8. employ manure, hot and stimulating; 9. steep the seed.

Gardener's Magazine in Germany. In January 1825, a new German Gardener's Magazine was commenced at Weimar, in a noted establishment, the proprietor of which is a great lover of gardening, and has an extensive walled garden, containing numerous hot-houses. It is divided into eight parts. 1. Botany, relative to gardens; 2. theory of gardens; 3. ornamental gardens; 4. culinary gardens; 5. orchards; 6. parks and English gardens; 7. literature of gardening; and 8. miscellaneous intelligence. It is published in parts, of which six make a volume; but it does not appear that the time of publication is to be regular. The first number contains a translation of Mr. Knight's last paper on the culture of the melon.

Hanoverian Method of saving Lettuce Seed. Do not wait till the spike of flowers has ripened all the seeds, but cut it over on the first appearance of maturity, and lay it on the ground, when all the florets will ripen their seeds nearly about the same time.

How to destroy Caterpillars in an Orchard. Plant according to its size, from one to four plants of bird-cherry (Prunus Padus); almost the whole of the caterpillars and butterflies within 100 or 200 yards will resort to that plant. The appearance of the bird-cherry will be hideous, but the fruit trees will be safe.—(*Agricultural Journal of Bavaria, April* 1825.)

Preservative against Insects and Blight. A correspondent in a German Agricultural Journal says, "bore a hole in the branch attacked, drop therein two drops of quicksilver, and at the end of two days all the insects will be found dead." This assertion may very well be questioned.

Maize. The Pomological Society of Brunn are endeavouring to naturalize five varieties of the maize or Indian corn, which they have procured from America.

Indian Millet. In Bavaria they are endeavouring to naturalize this vegetable (*Sorghum vulgare*), and it is said with apparent success.

Astragalus Bœticus. Two ounces of the seeds added to half an ounce of good coffee beans, roasted and ground, are said to make an excellent coffee.

Dalmatian Strawberry. This is the Arbutus Unedo, *Fragolini*, Italian, and *Magniche*, Illyrien. In Dalmatia these fruits are so abundant, that in 1817 they began to distil a spirit from them, which they have since done in great quantities, and sold in Trieste for the highest price.

Culture of the Millet in Germany. There are three species in cultivation, common millet, Panicum miliaceum, Italian millet, P. italicum, and Polish millet, P. sanguinale. The first is principally cultivated, and is very productive in rich soil. It requires to be sown very thin, especially in good soil. To preserve it from the mildew, the seed is immersed for a moment in boiling water. Great care is requisite to cut down the plant as soon as the seeds begin to ripen, otherwise they are apt to be lost by the wind. The straw is less useful than that of wheat for thatch, or that of oats for fodder.

In the Garden of the Imperial Residence in Vienna a large conservatory has lately been erected, and a considerable number of new plants have been sent thither from this country; among these were a collection of Chrysanthemums from the Horticultural Society.

SWITZERLAND.

Agricultural Schools. The number of these for the poor are increasing from day to day. That which was established at Blœsihof, in the Canton of Zurich, in 1818, is in the most flourishing state; that of Hofwyl, near Berne, the first which was established in Switzerland, still maintains its reputation; that of Carre, near Geneva, and that at Basle, are comparatively recent establishments, but give every promise of success.

The Mole Plough. One of these has been introduced at Geneva, and approved of by the Society of Agriculture there.

ITALY.

Transplantation of Trees. An Italian Journal has published a long paper on this subject, containing the results of many experiments made by M. Carradori; these are, 1. to cut as little off the roots as possible; 2. that transplanted things require no other nourishment than water, and are injured by manure; and 3. that too much care cannot be taken to shelter them from the sun.

Grapes in Sicily. In the neighbourhood of Termini they cultivate above forty-one varieties, the names of which are given in *L'Ape di Palermo* for 1822.

The Hypericum crispum is stated in the Transactions of an Italian Agricultural Society, to be a deadly poison to sheep, and well known as such by the Sicilian and Neapolitan shepherds.

Vineyards. Hopes are entertained that the produce of the Italian vineyards, which is almost unknown in this country, will be soon materially improved under the direction of a patriotic Roman nobleman, the Marquis Potinziani. We understand cases of the first fruits of his vineyard have been already consigned to a celebrated Italian house in London. Under the direction of the same spirited individual, the common Woad (*Isatis tinctoria*) has again been brought into very extensive cultivation; we have been informed that the produce and quantity have proved to be quite equal to that of Indigo already cultivated, and as good indigo made as in India, but not cheap enough.

NETHERLANDS.

The Pear Colmar-Dewez. This pear lately originated in the neighbourhood of Brussels, is said to contain a rare assemblage of extraordinary qualities; flesh white, tender, and exquisitely melting. The juice abundant, mild, and of an elevated agreeable perfume, equal to the Harden-pont d'hiver. In a note it is observed, that the Harden-pont Pear, is the same as the glouglou; and that the Pear glouxmorceau de Cambron is the same as the Beurré de Neuve Maisons, and both resemble the Harden-pont, vulgarly called the Beurré d'hiver; so that after all this new pear differs little from the Beurré d'hiver. — *Bullet. Univer.* Sept. 1825.

Preparations of Milk in Flanders. In that country there are two curious preparations of milk in common use. The first is a mess called sour milk, much used by the country people, and made as follows: a considerable quantity of milk is put into a deep wooden vessel, and a certain quantity of salt is added to it. It is then left until the whey separate from the curd, when the former is poured off and given to the pigs, and the latter is stirred round, and more milk is added to it. This operation is repeated until the desired quantity of curd is obtained, which is found to have acquired a very acid taste. In this state it is kept for winter use, and is used in mixing a quantity of it with water and flour, which is boiled, and then bread is added to it. This mess is used for breakfast and supper, which always concludes with bread and butter. The second is a mess of curd, often used in the summer months, and much relished for supper. For making it vessels are procured, the one of which goes within the other, the innermost being perforated with numerous holes for the escape of whey. The milk is coagulated by means of rennet made by infusing a small piece of the dried stomach of a young hare in white wine. To the curd, well freed of the whey, is added salt and pepper, but many consider eschallots an indispensable ingredient. — *Brews. Ed. Jour.* Oct.

Roses grafted on Oaks. M. Bomowsky grafted or budded Rosa centifolia, bicolor, lutea, semperflorens, and alba altissima, on the young shoots of oaks, planted in pots and placed in a green-house. Rosa semperflorens flowered the same year; the others grew but did not flower. Only one sort died. M. B. does not know whether they will last many years or not, but he recollects other anomalies of the same kind. — *Bullet. Univer.* Aug. 1825.

Show of Plants at Ghent, 29th of June and 2d of July 1825. The medal was given for Hovea Celsi, as the most rare. Amaryllis toxicaria, and Canna Iridiflora, were the second in point of rarity.

Tan from the Bark of the Spanish Chesnut. The excellent quality of this tan is set forth in the Journal de l'Agriculture des Pays Bas, Oct. 1824.

Budding. In the Agricultural Journal of the Pays Bas, for October 1824, it is recommended to reverse the usual mode of raising the bark for inserting the buds, and to make the cross cut at the bottom of the slit, instead of at the top, as is generally done in Britain. The bud is said rarely to fail of success, because it receives abundance of the descending sap, which it cannot receive when it is under the cross cut.

SWEDEN.

Culture of Silk in Sweden. This it seems was attempted a number of years ago, and in 1823 was renewed. The mulberry grows very well in some of the provinces, and the silk produced is said to be of a finer and stronger quality than that of India. The silk produced in Bavaria is in like manner said to be superior to that of Italy.

The Agricultural Society of Stockholm celebrated in February last their twelfth anniversary. The king himself was present, and made a speech on the importance of the subject; observing that the result of their efforts had notwithstanding the severity of the climate, exceeded their hopes.

DENMARK.

Horticulture in Denmark seems to be as much in repute as in most other countries of the continent; the Crown Prince is a fellow of the Horticultural Society of London; and one of the royal gardeners, Mr. Peter Lindegaard has contributed several papers to the Horticultural Society's Transactions. Some of Sir John Sinclair's writings have been translated.

RUSSIA AND POLAND.

Caterpillars on Cabbages. In Lithuania these are said to be destroyed by distributing the leaves of a species of Kalmia which grows wild there (probably Ledum palustre), the odour of which is said to occasion the death of the caterpillars.

Botanic Garden at St. Petersburgh. The celebrated botanic garden of Prince Razumoffsky, at Moscow, which was under the direction of Dr. Fischer, at the death of that nobleman, excited no interest in the mind of his son; and Dr. Fischer then used his utmost exertion to have a botanic garden worthy of the Russian empire established at its capital, St. Petersburgh. This happily, through the intervention and influence of the Emperor's mother, a great lover of botany, and who herself possesses a very fine collection of plants, was accomplished.

Upon one of the small islands formed by the branches of the Neva, to the north of the town, and named Aptekerski Stroff (Apothecaries' Island), was founded by Peter the Great, a small garden for the cultivation principally of such plants as were useful in medicine, and was given to the company of apothecaries. Here Peter built, with his own royal hands, a hut, which still exists, and planted several trees, especially of poplar and lime, which have attained a considerable size, and are preserved with a sacred care. This spot, consisting of good soil, and watered upon one side by a branch of the Neva, was fixed on as the scite of the present garden. Other ground, however, was added to it in 1823, so that it includes an area of 60 English acres, in part surrounded by a wooden fence, and partly by a hedge, which occupies about 200 yards next the river.

In 1824, a series of operations were commenced and carried into execution; such as, perhaps, have scarcely any parallel in the annals of botanical institutions. Orders were given for ranges of green-houses, conservatories, and stoves, the cost of which was estimated at a million of roubles (about 40,000*l.* sterling), and the whole to be completed before the present winter.

There are three principal houses, facing the south, each 700 feet in length, and 20 to 30 feet from back to front, placed in parallel lines, but at such a distance from each other that by two other houses of the same length, running from north to south, and placed at the ends of these, the whole forms a parallelogram, measuring 700 feet each way, intersected by a central house of the same length. The middle building is most lofty, being 40 feet high in the central part. The three that face the south have a sloping light in front reaching from the top to the ground. Those which run north and south have a double roof, are comparatively low, and have the path in the centre. All are heated by means of common flues, and with wood, principally birch. Water is raised by engines from the river, and cisterns filled in various parts of the houses, and in the most convenient situations. The large spaces of ground or areas between the buildings, are filled with shrubs and flower beds; only behind the most southern one is a splendid suite of apartments for the Royal Family. These have windows, opening from above into the house below, so that the plants may be seen to great advantage.

Dr. Fischer, who has the charge of the establishment, occupies, at present, a small wooden dwelling within the garden; handsome and commodious habitations are to be built for him and for the two chief gardeners, one of whom is a Dane, and the other a Frenchman. Two secretaries are employed, one a French Gentleman, M. Fleury, who lately visited this country with Dr. Fischer, the other a Russian, and also an excellent botanic painter, a native of Germany, who has already executed some very beautiful drawings of new and rare plants. There is scarcely a garden in Europe, which will not, if it has not already, contribute to stock this superb establishment. The collection is, even now, very great. 100,000 roubles were appropriated for the purchase of plants at the commencement; and 68,000 roubles annually for the ordinary expenses. During the last year, which, as we have seen, was the first of the commencement of the institution, no less than 14,000 packages of seeds were sown in 60,000 pots. Dr. Fischer paid a hasty visit to England and Scotland in last autumn, and collected so great a number of living plants (above 4000), that he engaged Mr. Goldie of the Monkwood Nursery, near Ayr, to take charge of them during the voyage, and to assist in the transplantation. This was successful, and on Mr. Goldie's quitting St. Petersburgh in October, the whole collection was in a most thriving condition. *Edin. Journ. of Science*, 1824, No. 6., p. 356. 358.

SPAIN AND PORTUGAL.

Don Mariaño La Gasca, professor of botany at Madrid, has promised to furnish us with ample information on the gardening of Spain, for our next Number.

INDIA.

Substitutes for Hemp. The palm Saguerus Rumphii has fibres which may serve for ropes and cables of any size. The late Dr. Roxburgh planted 100,000 of them in the botanic garden at Calcutta. At the end of six or seven years this may be cut down, the fibres of the trunk converted into ropes; the sap into palm wine, or toddy; and the pith into sago. Crotalaria juncea is used in several parts of India to make ropes, and delivered in London it comes much cheaper than Indian hemp. The common hemp Cannabis sativa is not cultivated in India for cordage or the weaver, but only in a small quantity, on account of the narcotic qualities of the leaves of the male, and the flowers of the female. Robinia cannabina is one of the best vegetables of India for producing fibres fit for cables and ropes. Corchorus Olitorius is cultivated for the same purpose. The Agave Americana, Aletris nervosa, Abroma augusta, Hibiscus Manihot, a species of Bauhinia, another of Sterculia, may all be employed for the same purpose; but Crotalaria juncea is most generally used on the coast of Malabar, and all the countries of the East. — *Technic. Repos. Oct.* 1824.

CHINA.

Hatching of Fish. The Chinese have a method of hatching the spawn of fish, and thus protecting it from those accidents which generally destroy a large portion of it. The fishermen collect with care from the margin and surface of water, all those gelatinous masses which contain the spawn of fish, and after they have found a sufficient quantity, they fill with it the shell of a fresh hen's egg which they have previously emptied, stop up the hole, and put it under a sitting fowl. At the expiration of a certain number of days, they break the shell in water warmed by the sun. The young fry are presently hatched, and are kept in pure fresh water till they are large enough to be thrown into the pond with the old fish. The sale of spawn for this purpose, forms an important branch of trade in China. — *Profess. Silliman's Journ. of Science*, Vol. viii. p. 381.

NORTH AMERICA.

The American Farmer's Journal, vol. vi., *and the American Plowboy*, vol. ii., both weekly publications after the manner of newspapers, have been lately presented to the Horticultural Society, and will afford us some gleanings for our next Number.

African Sheep. An importation into the United States from Africa has recently taken place, of a number of the broad-tailed breed of sheep, procured from the interior of Africa at considerable expense and trouble, by Captain Creighton, of the United States ship Cijane. This species is said to be extremely valuable, not only for the wool, but the flesh; and the tail in particular, which is eight or ten inches in breadth, is esteemed a great delicacy. This is the first attempt to introduce the breed into North America. — *Morn. Chron. Oct.*

A Horticultural Society has been established in Jamaica; the secretary of which, Mr. Miller, has proffered its services to the Caledonian Horticultural Society.

SOUTH AMERICA.

The Cow Tree. This tree, which has been named Galactodendron, and appears to belong to the family of Sapoteæ, grows on rocky declivities on the northern Andes. Its leaves are large, oblong, thin, dry, and coriaceous. " Its thick ligneous roots scarcely enter the rock; for several months in the year rain scarcely waters its fan-shaped leaves. The branches appear dry and dead. But when an incision is made in the trunk, a sweet and nutritious milk runs from it. It is at sun-rise that the vegetable liquid runs most abundantly. Then the natives and negroes are seen to come from all parts provided with vessels to receive the milk, which becomes yellow, and thickens at the surface. This vegetable milk possesses all the physical properties of the milk of animals, only it is a little thicker, and mixes easily with water. When boiled it does not coagulate, but a thick yellow pellicle is formed on the surface. Acids do not form with this milk any coagulum as with that of the cow." — *Humboldt, Voyage aux Regions Equinoxiales du Nouveau Continent*, lib. v. chap. 16. p. 263 and 264.

AUSTRALASIA.

Australian Agricultural Company. We are happy to be enabled to state of our own knowledge, that this company, which has been incorporated for the promotion of horticulture and agriculture in N. S. Wales, is proceeding under the most favourable auspices. Large quantities of agricultural implements and new farming stock, and horticultural productions of all kinds have been sent from this country, and the reports from the colony are of the most gratifying description. It is expected that the olive will be soon introduced at Port Jackson, where the cultivation of the grape has already succeeded beyond expectation. We have seen sampies of a growth of wine from these young vineyards, which is not inferior to the very best of the light white Burgundies. With the protection which the promoters of the purposes of this company will meet with from the new and enlightened colonial secretary, Alexander M'Leay, Esq., it is not too much to anticipate, that in a few short years the vineyards and olive grounds of Port Jackson and Sidney will rival the best of France and of Italy, as their Merino fleeces already do the finest which are imported from Spain.

Government Garden. Some additions have been made lately to the colonial garden at Port Jackson, which, under the care of its indefatigable superintendent Mr. Charles Frazer, is rapidly accumulating in one common point, the vegetable riches of the colony, and the most important productions of our own quarter of the world.

Art. II. *Domestic Notices.*

ENGLAND.

Prangos Hay Plant. This is a perennial herbaceous plant belonging to the Umbelliferæ, nearly allied to Cachrys, and named by Mr. Lindley, Prangos pabularia. It has a large fleshy root stock, and finely cut leaves, about two feet long, which constitute the fodder. It is cultivated in Thibet, and employed in the form of hay as a winter fodder for sheep and goats. It is considered to be at least as durable as Lucern, and may probably become a valuable plant in several British colonies. Seeds sent to this country had lost their vegetative power, but from various facts it is conjectured, that the Prangos may become an agricultural plant of this country. — *Lindley in Jour. of R. Instit.* No. 37.

Camellia Oleifera, a handsome plant of this species is now in flower at Messrs. Loddiges for the first time in this country; the petals are white, and about two-thirds of the size of the single white Camellia japonica. In the southern provinces of China it is cultivated in great abundance for the sake of the seeds, which produce by pressure a fine pure oil used for lamps, and for various purposes of cookery.

Island of Jersey. A nursery was established here in 1816, by B. Saunders. Its extent is about six acres, in which a general assortment is kept, of fruit and forest trees, greenhouse, and herbaceous plants. Many new varieties of apples and pears from France are here cultivated. It is noted for the Chaumontel pear, which here grows to great perfection; and also for very choice new roses, Tulips, Jonquils, Anemones, Ixias, Gladioluses, double white Primroses, Carnations, and Yellow picotees, in great variety Supplies of Belladona and Guernsey Lilies are annually sent to the London and provincial nurserymen.

Woods and Forest Lands. We omitted to include in the last edition of the Encyc. of Gard., a work entitled Observations on Woods and Forest Lands, by W. Wilkie, published by Rivington and Co., in 1800. The author is at present employed in the nursery of Messrs. Cormack, Son, and Sinclair, New Cross, Deptford, and may be advantageously consulted by gentlemen on the subjects of his book.

Horticultural Society of London. Nothing very particular was exhibited at the Society's rooms on the two meetings of October; but on the 1st and 15th of November, a splendid shew of chrysanthemums was placed on the table, including nearly twelve sorts, which have never before bloomed in this country. Among the fruits tasted during the last four meetings, the best in our judgment were, the Tottenham park Muscat grape, the Beurré d' Aremberg pear, and the Golden pippin and Nonpareil apples. The pears were grown by Mr. Knevet, an eminent market gardener at Turnham Green, who occupies ground that was a garden celebrated for Pine apples in the time of Justice, nearly a century ago. Some very large fruit of Pyrus japonica were exhibited by Miss Crabtree, an amateur. The Pine apples of November had very little flavor. Fine specimens of Humea elegans, Crowea saligna, and Cyclamen persicum were exhibited on the 6th of December, and at the same time a very interesting paper read on the laws which regulate the production of double flowers, by Mr. Lindley.

In the garden of the society the finest autumnal feature has been the Chrysanthemums; the Dahlias had bloomed tolerably well for the season; but the Chrysanthemums, for variety, brilliancy, and luxuriance, we may assert, without the least risk of exaggeration, presented a display never hitherto equalled in Europe. There are now in the garden about fifty sorts; the whole of these were assembled in one house; and in full bloom on the 20th of November, and the greater part of the varieties were in equal perfection, closely trained against a south wall.

The Pine plants are equal in luxuriance to any in the neighbourhood of London, and in general every thing cultivated in the garden is in a prosperous state. In future numbers we expect to be more particular in our details of this garden, and of the meetings and transactions of the society in Regent Street.

The prospectuses of two publications have been issued by the society; the first is to contain correct delineations of the new or rare plants which may be flowered in the garden at Chiswick; and the second accurate delineations of the fruits cultivated there.

Ericas in flower from October 1st to November 26th, in the Tooting Nursery, communicated by Messrs. Rollison.

Acuminata,
Aitoni,
Archeriana,
Ardens,
Assurgens,
Bandoni,
Banksia purpurea,
Bowieana,
Caffra,
Carinata,
Carneola,
Cerinthoides,
    magna,
Colorans,
Concinna,
Cupressina,
Exsurgens,
Exsurgens grandiflora,
Filamentosa,
Formosa,
Gracilis,
Imbricata,
Lambertiana,
Leucanthera,
Longipedunculata,
Lutea,
Mammosa,
Mucosa,
Mutabilis.
Ovata,
Palustris,
Præstans,
Princeps,
Pubcscens major,
Pyramidalis,
Ramentacea,
Retorta,
Rupestris,
Savillia,
Sebana,
Solandri,
Taxifolia,
Templea,
Tenella,
Tenuiflora alba,
Triceps,
Vernix,
    rubra,
Vestita fulgida,
    purpurea.

From November 1st to the 26th, besides many of the above.

Calycina,
Concolor superba,
Denticulata,
Hirta,
Mucosoides,
Pubescens minima,
Regerminans,
Rollissons' blanda,
Rubens,
Scabriuscula,
Serratifolia,
Sordida,
Viridescens.

We expect in our next number to give a catalogue of the Ericæ of Professor Dunbar, the most complete, we believe, in existence.

Scotch farming. One of the most spirited examples may be seen on the farm of Kidbrooke, Blackheath, consisting of 620 acres, occupied by Mr. R. Dickson from East Lothian. Mr. Dickson seems to possess abundant capital, which is directed by adequate skill, and stimulated by the highest spirit and love of his profession. In the appendix to Holdich's essay on weeds, lately edited by Mr. Sinclair, is given an account of Mr. Dickson's mode of freeing a field of heavy soil from couch grass, without the aid of a naked fallow. From this it appears that no cost is spared for the most improved implements; six being described as employed for the above purpose, which together must have cost at least 120*l.* The most effective of these implements is Moreton's revolving harrow.

To render trees permanently fruitful. It has been suggested we believe by Sennebier, that if a ring of bark were taken from the trunk of a rapid growing tree, and replaced by a ring of bark from a tree of an allied species, but of slower growth, it would have a tendency to operate like the process of ringing without any of its inconveniences. Apply a ring of plum-tree bark to a branch of peach-tree.

Provincial Horticultural Societies are established at Cambridge, York, Leeds, Liverpool, Winchester, and other places; we should be happy to receive some account of these societies, and from time to time a report of their proceedings for the purpose of inserting them in the Gardener's Magazine.

Magnolia macrophylla, a plant of this species about 14 feet high, flowered in the open ground at Chiswick in May last, and about the same time another trained against a wall in the flower-garden at Harringay near Highgate.

Botanic Garden, Mary-la-bonne. This establishment of Mr. Jenkins has been entirely broken up, and the plants sold to make way for building operations. Several nurseries have submitted to the same fate.

Large Pine Apples. On the 30th September a pine-apple was cut in Lord Anson's garden, at Shugborough, which was two feet in circumferance, and weighed 11 lbs. 3 qrs. — (*Morn. Chron., October.*) About the same time one was cut in the Duke of Buckingham's garden at Stowe by Mr. Brown, somewhat larger than the above.

Brighton Athenæum and Oriental Garden. The principal objects of this institution are the following: I. An extensive collection of exotic plants inclosed in a glazed conservatory. II. A library of standard works in literature and science, museum of natural history, &c. &c. III. Annual courses of lectures on all subjects of interest and importance.

The Oriental Garden. This name has been chosen from the adaptation of the place to the growth of tropical plants. The building will be of oriental character, entirely of glass, supported by iron-work of a peculiar construction; which, while it possesses the requisite strength for covering so vast a space, is delicate enough to admit the light with perfect freedom. It will include about an acre of ground: and under this magnificent canopy the finest and most beautiful tropical plants may be grown in all the perfection of their native soil and climate.

New Plum. Two nurserymen have been advertizing a plum imported from New Jersey; the one calls it La Delicieuse, as being a name given to it by Charles X. of France; and the other, Cooper's Large Red American Plum, as being the original name. It is said to be very peculiar in the habit of its wood and leaves; the fruit of a large size, oval, purplish color, rich, and juicy, making an excellent preserve. It is ripe in this country about the end of September, on trees trained to a wall; on standards it ripens a week or ten days later.

Destruction of Worms and Slugs. Mr. D. M'Dougal perseveres in disseminating his remedy for these vermin, and wherever he is employed is completely successful. His secret is well known, but we do not mention it, because most people make light of things which cost them nothing, and because we think that Mr. M'Dougal merits something. — *Encyc. of Gard.* 2284.

American Aloe. One flowered last Autumn at the Duke of Devonshire's, of which the following description was sent us by Mr. Lindsay, gardener to his Grace: "The plant is upwards of twenty-four feet in height; the leaves average about four feet and a half in length, and about seven inches in breadth; the circumference of the plant at the base is about four feet, and that of the flowering stem about sixteen inches. In all probability the plant will continue flowering for three weeks. The flowers on being minutely reckoned, compose the immense number of 2112. This species of agave is a native of South America, and was introduced into Britain in the year 1640; the class hexan. monog. This plant is known to have been in Chiswick gardens for nearly fifty years, and is supposed to be upwards of ninety years old."

Mustard Seed of Scripture. Mr. John Frost thinks he has discovered that the Mustard Seed of Scripture was the seed of the Phytolacca dodecandra. — *Journ. R. Inst.* Oct.

Action of Poisons upon the Vegetable Kingdom. M. T. Marcet, of Geneva, has lately made some curious experiments upon the effects of poisons upon the vegetable system. By causing plants to grow in poisonous mixtures, or by introducing poisons into their system, it was found that the effect upon vegetation was nearly the same as upon the functions of animals. The experiments were generally made with plants of the Kidney Bean, and a comparison was always made with a plant watered with spring water. — *Journ. R. Inst.* Oct.

Hyde Park and Kensington Gardens. Considerable alterations are making in the roads and fences of the park, and a bridge, or viaduct of some description, is being erected at the head of the Serpentine River. We have long ago suggested, that it would be a great improvement to reduce the piece of water in Kensington Gardens and that in the park to the same level; and these two rivers being united, to let them constitute the separation of the park from the gardens. In that case, the continuation of the New Road, Mary la bonne, along Grand Junction Street, might enter the park exactly where it abuts on the Uxbridge Road, and so continue along the north margin of the united river, till it joins the park road already existing, towards its eastern extremity. Another improvement would be to bring in the supply of water by a large pipe, which might take its rise where the present brook crosses under the Grand Junction Canal. Two advantages would result from this arrangement; first, the water would be brought in pure, instead of being, as it is, a common sewer; secondly, it might be brought in at such an elevation as would give a fall of ten feet for a cascade, as the source of supply. By the judicious employment of this cascade among the wood, and by other arrangements which we cannot here enter into, an excellent effect might be produced. Another improvement, which we have several years ago suggested, is the removal or thinning out of the margin of timber trees from Cumberland Gate to the door into Kensington Gardens, Bayswater. These trees being removed, an open palisade should be substituted for the wall, and within, a broad margin of evergreen shrubs, to preserve the privacy of the interior gravel road and walk, and increase the beauty from the exterior. There can be no comparison, surely, between the beauty of a margin composed of hollies, box, yew, laurels, junipers, cedars, &c. and one of elms and poplars, like the present. But the truth is, both the park and gardens were planted before we had attained to much discrimination or taste (and which indeed we have hardly attained to yet) in the choice of trees and shrubs. The present time seems to be a favorable one for improving our public parks and gardens, which foreigners justly observe are inferior to those of every other great city of Europe. We had translated, from the Prussian Horticultural Transactions, some observations on this subject by Mr. Lenné, Royal Prussian Garden Engineer, who lately visited this country, but we find we have not room for them in this number.

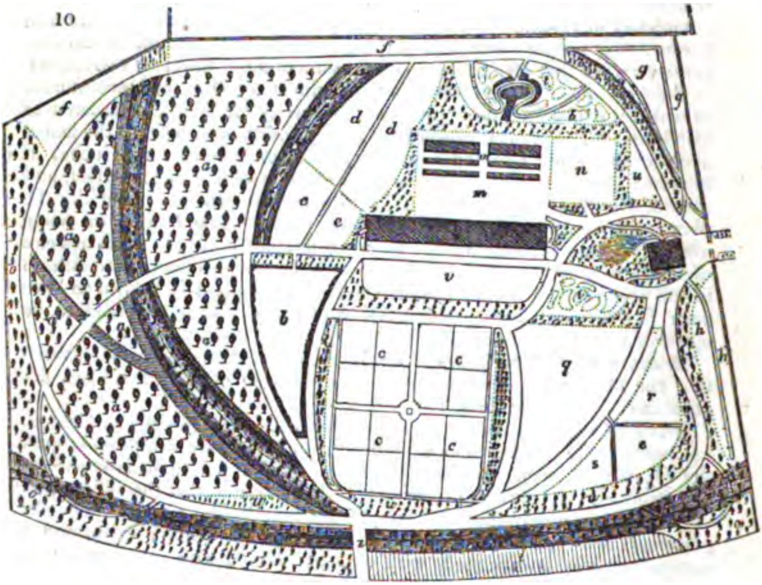
SCOTLAND.

Caledonian Horticultural Society's Garden. The following account is taken from the report by the Garden Committee, dated March 5th 1825. The ground, about ten acres, lies on a declivity immediately to the southward of the Botanic Garden, from which it is only separated by a wall (fig. 10. *f.*) The operations for forming it, commenced in August 1824; the plan was the joint production of two members of the committee, but chiefly of Mr. M'Nab. It has been drawn up with "the most careful reference to the general features of the ground in regard to its aspects, and to the varying conditions and qualities of the soil: those compartments allotted to standard fruit trees, have been placed on the western side, where the soil is deepest, and best calculated to receive them; and exterior to these, the arboretum has been disposed in such a manner as to unite the purposes of shelter, ornament, and utility.

In forming the various walks, attention has been paid to unite beauty of design with the readiest communication throughout all parts of the ground. The principal walk, which encircles the whole Garden, may be particularlized here, as constituting, on one side, a splendid terrace-walk, of near 700 feet in length, commanding one of the finest views of Edinburgh on the south, and the Botanic Garden on the north, bordered on each side by an extensive collection of roses and evergreens."

The following are the details of the plan:

10



a, Orchards for Standard Apple, Pear, Plum, and Cherry Trees.—They occupy a space containing nearly two and a half English acres, and are calculated to contain about 550 fruit-trees, at twelve feet apart every way. As the apple-trees, however, will mostly be trained *en buisson*, and many of the pear-trees *en quenouille*, eight or ten feet apart will generally be found sufficient: so that the number of trees may be greatly increased. It is here intended to form a collection of all the best varieties of hardy fruits, to be procured in this country, and from the continents of Europe and America: which will be brought with the utmost diligence into a bearing state, in order that the kinds may be proved, and the nomenclature fixed. We shall thus ascertain with precision those kinds best suited to the climate of Scotland; grafts or buds of which will be subsequently distributed to the members.

b, Central enclosed Experimental Garden.—A portion of ground enclosed by a holly hedge, with a door to be kept under lock and key, for select experiments.

c, The Culinarium or Kitchen Garden, containing nearly an acre of ground.—Besides paying every attention to the more ordinary kinds worthy of cultivation, all the new or little-known varieties of culinary vegetables will be fairly tried, in beds of considerable extent; and the relative advantages of various modes of culture determined. A copious supply of water is conveyed to a cistern in the centre of this compartment.

d, Compartments for an ample assortment of Stocks of different kinds for grafting or budding: such as Paradise and Doucin Stocks for Apples: Quince Stocks for Pears: Plum and Almond Stocks for Peaches, Nectarines, Apricots and Plums: and Guin and Mahaleb Stocks for Cherries.

e, Nurseries for rearing Seedlings, Offsetts, Cuttings, and Layers of the rarer trees and shrubs.

f, Principal Wall, with a south aspect, for the finer kinds of fruit trees: as Peaches, Nectarines, Apricots, Cherries, Almonds, the best French and Flemish Pears, Figs, Quinces, and hardy Grape-Vines, with an exemplification of the different modes of training. This wall is in general 14 feet high: 402 feet are built of coursed freestone, 75 of coursed whinstone, and 210 are faced with brick. Three kinds of coping have also been adopted for different portions of the wall. The border in the front is eighteen feet broad, and is formed in the most efficient manner, with a compost which has been long in preparation. Part of it has been laid with a bottom impenetrable to the roots of the trees. On this border, also, it is intended to raise the choicest annual esculent vegetables; and in this warm situation, some of the rarer varieties may be expected to ripen their seed, and ultimately become more hardy.

g, Walled Experimental Garden.—An enclosed space in the north-east angle of the ground, enjoying the advantage of walls, with south and west aspects, to which new or rare fruit trees and delicate shrubs may be trained. Part of this enclosure is to be devoted to the naturalization of tender exotics. This, and the compartment *b*, will be kept locked, and under the immediate charge of the society's gardener, in whose presence they may be visited by the members.

h, The East slip;—having a wall eight feet in height, with a west aspect, for new varieties of dwarf fruit trees, and a nursery border for raising new plants from seed.

i, Eastern Division of South Slip.—A fine border sloping to the south, well adapted for the cultivation of strawberries; and where the different species and varieties, at present in great confusion in Scotland, may be correctly ascertained and distinguished.

k, Western Division of South Slip;—intended for a collection of the small fruits, such as gooseberries, currants, and raspberries. Those varieties which require a deeper and richer soil, and a more sheltered situation, will be commodiously placed between the rows of trees in the lower division of the orchard.

l, The site for the erection of a hot-house for tropical fruits, and a few ornamental plants; a greenhouse, chiefly for the citrus tribe, Chinese plants, &c. and forcing houses for late peaches, nectarines, grape vines, &c. The plan of these houses is not yet prepared, and must be modified for the present in proportion to the extent of the funds. The space allotted to them is 200 feet in length by 25 in breadth, including back sheds. In the front will be a border 12 feet in width. The aspect is a little to the eastward of south, so that the houses will face the sun about a quarter before eleven o'clock.

m, The Framing Department,—150 feet in length, by 100 in width, for Ananas and Melon Pits, Cucumber and Gourd Frames, with room also for different Earths, Composts, and Manures.

n, Enclosure, sheltered by an evergreen hedge, for Greenhouse Shrubs, and other plants kept out of doors during the summer months.

o, General Arboretum; for large trees and tall shrubs which produce dry capsules, and fruits little used as food; so disposed around the Garden as at once to afford shelter, produce ornament, and serve the purpose of a scientific collection.

p, Raised Belts.—The larger ones dividing the orchards are intended for middle-sized trees and shrubs producing small fruits, such as Guins, Mulberries, Medlars, Azaroles, Mountain-Ash, Crabs, Barberries, &c. The smaller belt, next to the stock department, is appropriated to a collection of Chesnuts, Walnuts, Filberts, Hazel and Cob nuts. These raised belts, formed at a trifling expence during the levelling of the ground, constitute a part of the Arboretum, and will eventually afford much shelter.

q, Compartment for a collection of the most ornamental sorts of Perennial Herbaceous Plants.

r, Another compartment, destined for the cultivation of the most desirable Annuals, and for naturalizing the more tender exotic species.

s, A portion of ground set apart for receiving plants used in Agriculture; as Grasses, Clovers, &c.; where experiments may be tried at the suggestion of those interested in promoting the agriculture of the country.

t t, American-Shrub Department, with prepared borders. Here also will be the Pond for aquatics, surrounded by a mass of Rock-work for alpine plants, &c.

u, A space for plants with striped and variegated leaves.

v, Ornamental Flower-Borders for Carnations, Pinks, Ranunculuses, Anemones, Stocks, and other plants producing double flowers, as well as for Tulips, Hyacinths, Polyanthus-Narcissus, &c.

w, The Rosary, forming a border on each side of the south terrace-walk through nearly its whole extent; calculated to contain a collection of all the known species and well marked varieties.

x, Entrance from Trinity-road, with a cart-way into the frame-ground.

y, Site of the Gardener's house and the Committee-room, with apartments for arranging and keeping seeds, &c.

z, South entrance to the Garden.

This plan, as far as we can judge of it without inspecting the grounds, meets our entire approbation. We consider it greatly superior to that of the London society's garden, in which a radical mistake consists in having placed the arboretum in one compact mass, instead of forming a belt of it to surround the garden. The ground plan of this arboretum, and especially of the canal, or river, is quite a caricature upon ornamental landscape.

The Caledonian Horticultural Society held their great autumnal competition on the 31st of August last, at which a number of premiums were awarded for fruits of various descriptions. That for the best Queen pine apple, was awarded to Mr. John Mitchel, gardener to Sir David Moncrief, Bart.

British Wines. This society has always paid particular attention to the subject of home-made wines. Thirty-seven varieties were now presented to them for examination. The qualities of the wines seem to have improved materially from year to year, not only in the Champagne, both still and mousseux, from the unripe gooseberry becoming more and more palatable; but various attempts at imitating the drier continental wines have succeeded beyond expectation. The committee recommend competitors to follow, as nearly as possible, the mode practised by Mrs. Roberts, and described at length in the Memoirs of the Society, vol. iii. p. 460. The following receipt is from this family:—

> I have but one general rule for making every kind of garden wine. I put one-half pound of water to every pound of fruit; bruise them well together, and continue to mix them twice or thrice a day. I use the Saccharometer, and weigh a small quantity of the liquid after every operation. The increase of gravity is regularly noted down; for as long as saccharine matter is contained in the husks, the gravity will increase. When this is exhausted, a decrease of saccharine matter will be observed by a decreased specific gravity at the next trial, shewing that such matter begins to be decomposed. It is then strained from the husks into a cask without a head, for fermentation; which cask is sufficiently large to contain double the quantity required. The average quantity of sugar I use, is two pounds loaf, powdered fine, to every gallon of impressed juice, put in with the juice in the cask. This fermentation is allowed to continue till it has attenuated 30 or 40 per cent., helping the operation by adding a very small quantity of yeast at the first, and afterwards skimming and stirring it at the least once a-day. It is then transferred into the barrel for final fermentation, (filling it up twice a-day with its own liquor, kept for this purpose), and allowed to remain unbunged till all visible fermentation has ceased. I again weigh a sample, and find a further attenuation of 10 or 15 per cent. It is then racked from its lees into another cask, and the lees run through a filtering bag. The proportion of spirits used is one-twelfth; put in at three rackings, one-third at each.
>
> With regard to the saccharometer I am of opinion, that if it were in general use, the character of home-made wines would be greatly improved: and that it is impossible, without its aid, to make, from year to year, a regular and well manufactured wine. The seasons in this climate are so precarious, that the fruit in some years will yield, at the least, one quarter more saccharine matter than in others; and by following the generality of receipts, in favourable seasons, we shall have a rich, well tasted, excellent wine; in others, (although adhering strictly to the same methods), a thin and greatly inferior wine. By using this intrument, we find in bad seasons the deficiency of gravity; in good seasons, the increase. The known evil can be easily remedied by an extra quantity of unadulterated juice, sufficient to bring up the gravity as high as we find by experience is requisite. We, all of us, I am convinced, greatly err in using too much sugar; and were we to bring up our gravities by an extra quantity of fruit, sugar might, perhaps, be completely dispensed with. Home-made wines would then in every respect resemble foreign, and be far superior to what they now are.
>
> With regard to the fermentation, I find the greatest advantage from the frequent racking off our wine from the lees, as well to give it an opportunity of fining more effectually, as to restrain in some degree the fermentation, which might otherwise proceed from the vinous to the acetous, and thus produce vinegar instead of wine, which is sometimes the case. Yet the moderate check it receives from the frequent racking, is not sufficient to obtain the desirable attenuation. So long as any portion of the sweet continues to exist, the fermentation will go on; and this I have often experienced after wine has been bottled for many months. The frequent rackings will contribute to the soundness and preservation of the wine, no less than to its clearness and spirituosity.
>
> I have found the average specific gravity of home made wines, when a twelvemonth old, to be from 30 to 50. Whereas a well manufactured wine will never exceed the weight of water; as is the case with all good foreign wines. The last specific gravity before fermentation I adopt, averages 120 Allan's instrument.
>
> The instrument is expensive certainly when purchased merely for this use; but, if the method appears to you desirable, I have no doubt Mr. ALLAN could make an instrument of glass for ten or twelve shillings, which would answer the purpose very well, if the use of it were fully explained to him.

The Caledonian Society's quarterly Meeting for the election of office-bearers for the ensuing year, was held in November, when a number of prizes were awarded; among others, a medal for long service to Mr. Thomas Pattison, gardener to Walter Campbell, Esq. of Shawfield.

Catalogue of the Glasgow Botanic Garden, dated July 1st, 1825. Dr. Hooker has published a catalogue of the plants in this garden, which at a rough estimate appears to contain about seven or eight thousand species, besides "many others, which are either entirely new and undescribed, or which, from the circumstance of their not having yet blossomed, cannot be accurately determined." The object of the catalogue is "to increase still further the collection;" the arrangement is alphabetical, as the most convenient for reference. To avoid the necessity of giving synonymes, the generic and specific names are the same as those employed in the nomenclator botanicus of Dr. Steudel, with the exceptions of the orchidiæ, in which the nomenclature of Brown has been preferred.

The ferns are not included in the alphabet, but are arranged systematically at the end of the work; they amount to a hundred and twenty-five species, of twenty-nine genera. There are in the catalogue, 69 species of Campanula, 218 of Erica, 46 of Iris, 159 of Mesembryanthemum, 107 of Salix, 58 of Saxifraga, 50 of Silene, 49 of Trifolium, and 72 of Veronica.

"The Glasgow Botanic Garden, since elevated to a Royal Institution, was only founded in the year 1817; and it must be a source of high gratification to those individuals who have been instrumental in the formation and support of the establishment, to see in how short a time it has been made to contain a collection of plants, which is surpassed by few in the kingdom."

Pomme de deux Ans. At a meeting of the Caledonian Horticultural Society, held on the 31st of August last, Dr. Duncan presented two apples of this variety, which had been pulled by him in his garden that morning from the same tree. They grew within six inches of each other; the one was the produce of blossom in spring 1824, and was the fruit of last year; the other was from the blossom of spring 1825, and the fruit of the present year.

IRELAND.

Country Seats in Ireland, omitted in the Encyclopædia of Gardening, communicated by Mr. Forbes, gardener to the Duke of Bedford, Woburn Abbey.

Rockingham, near Boyle, Lord Lorton's, co. Roscommon. A magnificent mansion, from the designs of Nash of London, and executed by Lynn. It is situated on an eminence commanding some fine picturesque views, and a lake of several miles extent, that washes the verge of the lawn, and surrounds an ancient castle, still inhabited by a part of the establishment. There is also a hardy heath garden, adjoining a handsome bridge lately erected across a narrow part of the lake to an island of considerable extent. The kitchen garden, one of the best in the kingdom, with a very extensive range of hot-houses. The pleasure grounds and flower garden tastefully laid out, and the whole kept in the neatest order.

Strokestown House, Strokestown, Lord Hartland's, co. Roscommon. An ancient residence, greatly improved by Lynn in 1819. The demesne contains above a thousand acres, beautifully varied with wood and water, and a good kitchen garden.

Castlerea House, Castlerea, Lord Mountsandford, co. Roscommon. An ancient house and extensive gardens, abounding with many rare plants.

Moat Park, near Roscommon, Lord Crofton. An excellent house and extensive demesne remarkable for its fine old oak timber.

Courtown House, near Gorey, co. Wexford, Earl of Courtown. An ancient residence with extensive grounds, beautifully varied, and an excellent kitchen garden, with a very handsome flower garden, on different levels, and also a choice collection of American plants in several parts of the demesne.

Shelton Abbey, near Arklow, Earl Wicklow, co. Wicklow. A magnificent building, situated in a valley, surrounded by extensive oak plantations. The river Arklow passes within a few yards of the abbey.

Lyons, Lord Cloncurry, co. Kildare. A noble house, greatly improved by the present proprietor. There is a fine sheet of water in front. On the opposite side, there is a hill beautifully planted, commanding some fine views.

New Zealand Hemp (*Phormium tenax*). This plant has grown in the open air in the counties of Waterford, Cork, Limerick, Louth, Wicklow, and Dublin, for the last thirty years, as an ornamental plant. During that time it has only suffered once or twice in the extremities of the leaves from the most severe frosts. Six leaves give an ounce of dried fibres, which it is calculated will exceed per acre the produce of either flax or hemp. It may be observed, however, that the separation of these fibres from the matter of the leaf is not at present understood. Whether the cultivation of this plant is ever likely to become an object of importance to Ireland may, we are sorry to say, be almost doubted. At least the experience upon the subject in New South Wales is against it. A company was some years since established in that colony for collecting the plant in New Zealand, and for rearing it at Port Jackson. Both schemes proved unsuccessful; the former from the plant being by no means common enough in New Zealand to pay for the trouble of collecting it: the latter from the long space of time which was required to bring the plants to perfection. Both plans were also impeded by the great difficulty which was experienced in reducing the fibres of the leaves to a marketable state as flax.

Rearing of Silk Worms. Much interest has been excited by the operations of a joint stock company formed for the truly patriotic purpose of providing employment for the poor of the south of Ireland by the rearing of the silk worm. This interest has been increased by the knowledge that the assistance of his majesty's ministers has been liberally accorded in every way which has appeared likely to prove advantageous to the scheme, and by the strenuous exertions made in its support by the Earl of Kingston and other powerful Irish noblemen. In the spring of 1825 a nursery was established near Cork, upon the estate of the Earl of Kingston, as a central depôt whence mulberry plants might be distributed to all parts of the country, and another for similar purposes in Devonshire; and we believe, that during the summer which has just passed, all proper means have been taken by Lord Auckland, the most active director of the company, for forwarding its ends.

We sincerely hope that this plan will proceed, notwithstanding the difficulties which may be expected to impede it from the unfavourable nature of our climate. Perhaps we may pursue this matter further in a future number.

ART. III. *Biography.*

Under this head we should be happy to collect some notices respecting the lives of eminent gardeners, or promoters of gardening, long since deceased; and where we can, we should also be glad to engrave their portraits. The following are a few names, respecting which the smallest degree of information would be interesting: Tradescant, Rea, Rose, Cooke, Meager, Read, London, Wise, Lucre, Field, Switzer, Langley, Furber, Gray of Fulham, Rocque, Justice, Hitt, Powell, Weston, and especially Wheatley; all authors of whom very little is known. Any information would also be very acceptable respecting the following garden artists, or any others whose names do not occur to us: Bridgeman, Robinson, Brown, Havorfield, Eames, White, Ramsey, Meickle, &c.

ART. IV. *Obituary.*

We have to record the death of Mr. William Ross, F. L. S. H. S., a respectable nurseryman at Stoke Newington. Mr. Ross's father came to England from the south of Scotland early in the last century; and after being some years in service as a gentleman's gardener, he commenced cultivating vegetables for sale at Stoke Newington, and passed the remainder of his life there. His son, the subject of this memoir, was born and educated at Newington, where he carried on the same business as his father for some years; but having acquired a taste for botany and drawing, he gradually turned his market garden into a nursery for trees. This piece of ground was at first of three or four acres of extent, but he gave up, for brick making and building, one part of it after another, till at last he reduced it to little more than half an acre. In this small space he cultivated an extensive collection of curious plants, particularly Alpines and Succulents. He raised one or two new species of Mesembryanthemum from Cape seeds, and several Camellias, some of which have not flowered; and for one, known as Ross's Seedling, he received a medal from the Horticultural Society. He was one of the few cultivators who succeeded in ripening seeds, and raising seedling plants from the Strelitzia Reginæ, which he did to a considerable extent.

The taste of Mr. Ross for small ponds and artificial rock-work was at one time such, that he got apparatus for boring for water, and intended to turn his skill in this way to account, by finding a supply for any one who might employ him. He was frequently applied to to fit up little jets-d'eau, and ornament them with shells, flints, and rock-work, and various specimens of his skill in this way may be seen in the flower-gardens about Stoke-Newington. A sudden illness, however, put a stop to his progress as a well-sinker; but he lived several years afterwards to enjoy his garden, and the comfort and solace of two well-educated daughters, fond of the same pursuits as himself. He had lost his wife several years before, and night fell upon himself in his 62d year, on the 14th day of November last. He was buried in the church yard of the parish, where a stone is erected to his memory.

ART. V. *Queries.*

A correspondent wishes to know the best mode of bagging grapes; and one who styles himself a "Constant Reader," (inadvertently we presume,) asks how he may best grow and bloom the yellow rose. We may observe here, that it is not our intention, as guardians of the six printed sheets which we mean quarterly to issue to the public, to insert letters of queries at length, but only to give their substance, and also the substance of their answers.

NOTICES TO CORRESPONDENTS.

The account of the conservatory at the Grange is necessarily postponed till next number, owing to Mr. Sylvester's dilatoriness in sending us the description of his mode of heating that conservatory, which, though promised by the 1st of December, is not yet (26th) received.

Professor La Gasca's paper on the Gardening of Spain, that of Mr. Mackintosh on a New Verge Cutter, and of Mr. Duff on the Cranberry, shall appear in our next.

Communications to be addressed to the Conductor, Bayswater, London; Advertisements for Part IV. may either be sent there or to the Publishers.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

On the First Day of January 1826, will be published, Post quarto 1s. 6d., and Foolscap quarto 1s.

No. 13. of the

BOTANIC GARDEN, or Magazine of Hardy Flower Plants, cultivated in Great Britain; and a succeeding Number will be published on the first day of every month, containing Four Coloured Figures, with their scientific and English names; the Linnæan class and order, and Jussieuean natural order to which they belong; their native country; date of introduction, or known cultivation; height; time of flowering, and duration — whether annual, biennial, or perennial; the medical or other qualities of such as are used in pharmacy, domestic practice, or the arts; the most approved mode of propagation and culture; and reference to a botanical description of each plant; together with notices of many physiological phenomena observed in this beautiful part of the creation. By B. Maund.

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Lit. Chron. May 1825.

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*** As the Plates to this work have all been destroyed by command, purchasers may at once be assured of its permanent and increasing value, from the utter improbability of any future edition appearing, owing to the enormous expence consequent on a new set. Under these circumstances, an early application for copies need not be suggested.

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No. II. of The GARDENER'S MAGAZINE will appear on Saturday the 1st of April.

THE
GARDENER'S MAGAZINE,

APRIL, 1826.

PART I.

ORIGINAL COMMUNICATIONS.

Art. I. *On the Benefits to be derived by the Country Labourer from a Garden, and the Means of teaching him how to acquire those Benefits.* By William Stevenson, Esq. Author of the Agricultural Surveys of Surrey and Dorsetshire, &c.

Sir,

THE Introduction to the first Number of your Gardener's Magazine has one singularity, which distinguishes it from all introductions I ever read: so far from exhausting the subjects which your Magazine, from its title and character may be expected to contain, and being so lavish in your promises of advantages to be derived from it, as to stir up doubts in my mind, whether with all your own industry and knowledge, aided by those of a numerous correspondence, you will be able to accomplish them, it seems to me that you have entirely neglected one most important benefit, which through your Magazine may be conferred on the great mass of the country population. The activity and enthusiasm lately displayed for the instruction and improvement of all classes of mechanics, and the consequent amelioration of their condition, and opening unto them new sources of utility and happiness, are highly creditable to the age in which we live. But these advantages are from their very nature confined to the town population of this kingdom. Institutions, associations, and lectures, may be carried on in towns, but they are impracticable in the country, where the population is thinly scattered. In towns, mechanics, by mutual collision, while they are at work, and at other times, strike out new ideas, and thus benefit one another; but in the country this can seldom be the case. In short, it seems to me, that, by the present measures for the instruction of the mass of the people, the working classes in towns will be enabled to get greatly in advance of those in the country; and I am sure, of all classes, the country population most require the expansion of their minds, and in the end, by this expansion, will most conduce to the real wealth and stability of their country.

But, you will ask, in what manner can the Gardener's Magazine be rendered conducive to this object, which all must allow to be one of the highest interest and importance. I will briefly sketch out a plan, which, if followed, will enable your Magazine to become, at least, in some degree and manner conducive to this object. But, remember, having sketched out such a plan, I leave it entirely to you and your readers properly and fully to execute it.

It is extremely difficult to lead on men, who have not been accustomed to the exercise of their thoughts, and to derive gratification from that exercise, to any mental pursuit: you must at first make use of the gross motives of advantage. Thus, it would be difficult to draw off a peasant from the ale-house to the cultivation of his garden, by merely expatiating on the interest and pleasure derived from such cultivation; you must first get him into his garden, by proving to him, that by its proper cultivation he may benefit his health, save his money, and cheaply contribute to some of his animal gratifications. Having thus drawn him into it, and excited his interest regarding what grows there, and chiefly because by means of his garden his meals may be rendered less costly to his purse, and more agreeable to his palate, you may gradually unfold to him higher and more intellectual motives for cultivating it, and the prospect of new sources of enjoyment to be derived from its cultivation.

These remarks contain the principle on which my plan proceeds. I shall now go into its detail:

I should wish to see in your Magazine a series of papers on the following subjects:

1. Papers that would teach the peasant, in a very plain, explicit, and full manner, how he might derive from his garden, at the least expence of time, labour, and money, the largest contributions to his own meals and those of his family. You must suppose he has just entered on his garden; and that it requires to have every thing done for it: its soil improved, draining, inclosing, &c. After instructions on these topics, give him instructions respecting the kinds of vegetables and fruits, which it will be most for his benefit (always taking into consideration the saving of time and money), to cultivate.

We will suppose that by the assistance of your instructions he has succeeded in making a good garden, and that he has raised in it excellent vegetables and fruits, and a considerable variety of them; for that is a consideration of great moment, as conducing to give to the interest he takes in his garden a more expanded and a deeper stability. You must not yet leave him to himself; but, stepping a little out of your proper character, teach him in what manner to use these vegetables and fruits, so as to derive from them the greatest nourishment and *relish:* I add relish, and I particularly and emphatically dwell upon it; because we must enlist animal gratification on our side, otherwise we shall never be able to effect a lodgment in the mind. Do you or your readers, therefore, instruct the peasant population fully and clearly how they may best keep their vegetables and fruits, after they have, by attention to your rules, raised them; how they may best pickle or preserve such as are suited for these purposes; and in what manner they should cook them, so as to render them most nutritious, palatable, and economical. It is unnecessary for me to go into further detail; many subordinate and collateral points, connected with this division of the plan, will suggest themselves to you and your readers.

2. Having thus succeeded in creating an interest in the mind of the peasant for his garden, by connecting his own benefit and gratification, with proper attention to it, we may proceed one step farther, and, taking advantage of that interest, and of that fondness for flowers, which seems almost natural to man, direct his thoughts and wishes next to their cultivation. On this point your Magazine might be of essential service. I do not mean by merely teaching him, what flowers best suit certain soils and climates, or how they are to be managed during the whole of their progress; but by improving his taste. Teach him in what manner to select and arrange his flowers, so as best to please the eye; and by degrees give him reasons for such selection and arrangement; first, however, give him time to perceive from his own observation and experience, that his eye and taste are most pleased by a certain selection and arrangement; and then enter on the most simple and obvious reasons why they should be so.

We have now got our peasant one degree above mere profit and animal gratification, with respect to the motives which lead him to attend to his garden: but we must not yet give up these auxiliaries, nor think our cause degraded by their assistance.

3. In the course of teaching him that his vegetables and fruits will thrive best in certain soils, or with certain manures, an easy, natural, and obvious transition may be made to the causes why this is the case, and his attention and interest being thus excited, a considerable degree of instruction may

be given in the more simple and elementary points of vegetable physiology. But one grand object must never be lost sight of — to induce and enable him to become his own instructor; and this must be effected, by gradually leading him to make observations on what is daily going on among his vegetables and fruits — the greater vigour and quicker growth of some; and thence an investigation into the causes. Teach him to take an interest in his garden; and then he will soon use his eyes when in it; he cannot long use his eyes, before his thoughts will be exercised; and this is all that is necessary to render him first a good gardener, and next a tolerable botanist and physiologist.

One great advantage our peasant possesses over the town mechanic. Nature is constantly making experiments for the former, she is every moment at work under his eyes, he has only to see and think, and what she does is more beautiful and astonishing than any thing man can do. Whereas the town mechanic must either make experiments himself, or attend to those of others. Besides the difficulty, or perhaps impracticability of the first, and the inconveniences attending the second, he cannot watch the processes and results of the experiments so attentively, so long, or so repeatedly as the peasant can do those which Nature is carrying on under his eyes.

4. But we may render our peasant still better informed, and thus multiply his sources of utility and enjoyment. Here also we ought to work by means of gross motives. In giving him instructions regarding his vegetables, fruits, and flowers, you will, of course, point out to him the depredations committed on them by various kinds of insects, &c. and the best manner in which they can be protected from these depredations; this unfolds a very obvious mode for drawing his attention and interest to one branch of natural history; as it certainly would be no difficult matter to lead him to study the habits and actions, if not the structure of the insects that frequent or infest his garden. In order to protect his vegetables, fruits, and flowers from them, he must know something about them, he must feel some interest about them; and this feeling and knowledge, properly taken advantage of, will lead our peasant to instruct himself, by his own observation and experience, in the more easy and pleasing parts of insectology.

I may be too sanguine in the results I expect from such a series of papers as I have described; but I cannot help thinking, that by means of them, not only may the peasant population be enabled to derive from their garden a more abundant, various, and better supply of vegetables and fruits for their table, at less expence of time and money; and to cook them in such a manner, as will be at once more economical, and render them more wholesome, nutritious, and palatable; not only may the peasant population be enabled to cultivate flowers with skill and success, to take an interest in their cultivation, and to improve their taste, and thus multiply their sources of innocent pleasure; not only may the peasant be enabled by such a series of papers, to teach himself much on botany, vegetable physiology, and insectology, and by watching Nature as she is at work in his flowers, vegetables, and fruit trees, and in the insects that frequent them, raise and purify his thoughts; but I do hope and believe, that by such a series of papers, a few, at least, may be called forth from the ignorance and obscurity in which they otherwise would have dwelt, and be rendered useful contributors to these branches of sciences. Much still remains to be learnt, which can only or best be learned by those who use their eyes and thoughts while in a garden; much, especially, respecting the manners, habits, and economy of the various tribes of minute insects which frequent a garden.

If, therefore, by such a series of papers this branch of natural history is advanced, you will indirectly have done service to science; but whether this be the result or not, such a series must tend to benefit the peasant population, by increasing at once the sources from which their animal wants and gratifications are supplied, and opening to them, by the cultivation of their minds, new sources of much higher utility and pleasure. I trust, therefore, you will set yourself and your friends to work, and begin the series immediately,

I am, Yours, &c.
W. Stevenson.

3, Beaufort Row, Chelsea.
21st February 1826.

Art. II. *Some Account of a Conservatory lately erected at the Grange, the Seat of Alexander Baring, Esq. M.P., Hampshire.* By Mr. Peter M'Arthur, F.H.S. Gardener there; *with a preliminary notice respecting the Architecture of the Mansion, by an Anonymous Contributor.*

The Grange was the seat of the Lord Chancellor Hyde, and the house is one of the best works of Inigo Jones. The architecture of the interior; in particular the hall, corridores, and staircase, and the saloon on the first floor, have been celebrated by Walpole and others, as amongst the finest specimens of his taste. The original building consisted of the Italian square villa; the ground floor containing a suit of low rooms; and the first floor being reserved, according to the fashions of those days, for the best living apartments, was laid out with all the proportion and effect of which the space was capable, and approached by a stately and well-contrived staircase — a disposition which seems peculiarly appropriate to situations like the Grange, where the advantage of elevation commands an extensive view over a fine country, well wooded, and with great variety of landscape. The Grange has always been a favourite spot in the annals of taste, and contained, at one time, a very fine and curious collection of paintings.

A few years ago, Mr. Drummond, in whose possession it then was, conceived the idea of converting the exterior into the aspect of a Grecian temple, (*fig.* 11.) which was accomplished with great skill by Mr. Wilkins, as far as that object was concerned. The basement was formed into a magnificent pedestal for the portico, and the attic story, and its roof, were suppressed and concealed behind a massive intablature. It is a question, (which however is not the subject at present,) how far those cumbrous proportions, and that Doric severity, which according to Vitruvius were reserved to honor the major deities, are applicable to the purposes of villa architecture.

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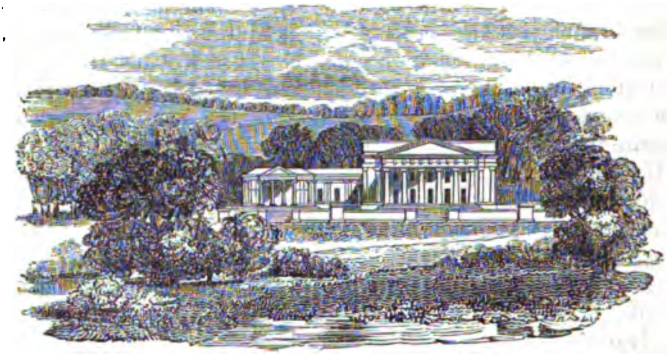


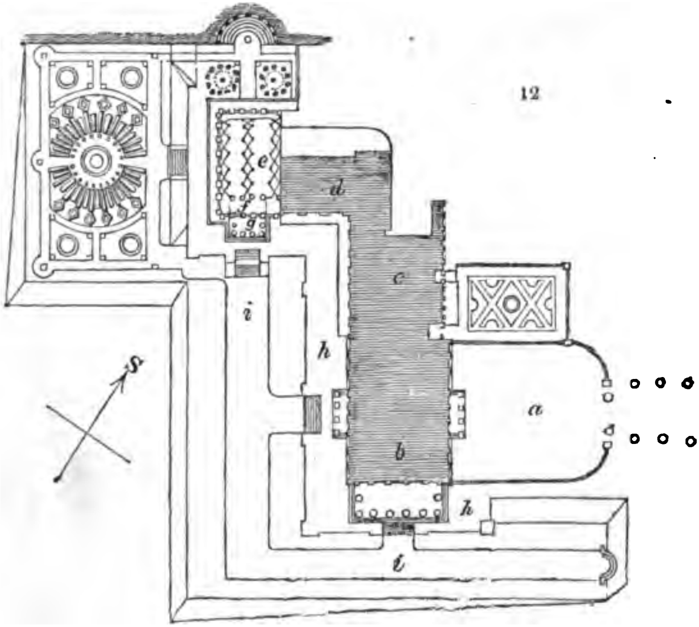
Be that as it may, situated on a gentle declivity, and sloping towards a fine piece of living water, with terraces surrounding the east and west fronts, embosomed in wood which covers the surrounding heights, and approached by magnificent avenues, it has the effect in the landscape, of those ideal scenes, which indulged only in the painter's imagination are hardly expected to be realized in nature. Those ponderous proportions which encumber the spectator on a near approach, like the tragic mask, communicate in the distant view all the characteristic traits that belong to that severe architecture, and give all its expression.

The present taste of the exterior is not more in accordance with the original architecture than with its real convenience, which has suffered considerably in the adaptation of the templar style, and by heightening the ground floor in compliance with the modern habits, without acquiring those noble proportions of which this operation has totally deprived the upper floor, and which the great designer knew so well how to give. In consequence of these inconveniences, the present proprietor has found it necessary to make some extensive additions, which have been made from the designs of C. R. Cockerell, Esq. Jun. a distinguished student of the Grecian style of art.

These additions consist of a dining-room to the north-east, and a range of most agreeable living apartments to the south-west, terminated by a conservatory 70 by 46 and 21 feet high. Into this spacious area of perpetual spring, are directed the windows of those apartments dedicated to the ladies.

The ornamental scenery, immediately surrounding the garden, fronting the house, partakes of the symmetry of its architecture; it is not entirely finished, but will be heightened with all the care and taste for which the liberal possessor is so distinguished.

The entrance front is approached by an avenue, seemingly coeval with the original building; it enters a court (*fig* 12. *a*)



inclosed by a dwarf wall, and the door of the house is under a porch of isolated square pilasters, in imitation of the Choragic monument of Thrasybulus at Athens. The suite of rooms leads from the hall and staircase (*b*) to the dining-room (*c*); thence to the ladies' apartments (*d*) and conservatory (*e*). Part of the conservatory is a promenade under an opaque roof (*f*), approached by a deep portico (*g*), the floor of which is on the same level with the upper terrace (*h*). From this terrace, different flights of steps descend to one on a lower level (*i*) connected with the site of a flower-garden; which, as before observed, is not yet completed.

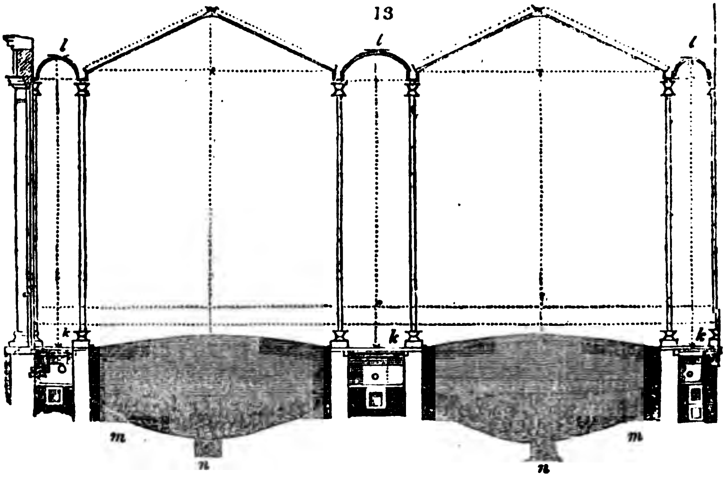
Description of the Mode of preparing the Soil, Planting &c. with a List of the Plants in the Conservatory at the Grange. By Mr. Mc. Arthur.

Dear Sir;

Agreeably to your request, I send you some account of the Conservatory at this place, as far as regards the horticultural arrangements; accompanied with a section, in order to illustrate what observations I have to make; and that they may be made in as few words as possible.

The house ~~(*fig. 12. e*)~~, except the vestibule ~~(*f*)~~, which forms an interior portico, is laid out longitudinally into two beds, each of which is 15 feet 6 inches wide. The centre walk is 6 feet 6 inches wide; those at back and front being 4 feet 9 inches.

13



The walks (~~*fig. 13.*~~ *k*) are under an arched, covered way, formed of double plates of rolled iron (*l*), between which is confined a stratum of air, to prevent the escape of heat. The bottom of the beds (*m*) are of a concave form, that the drainage may go to the centre; under each bed there are three dry wells, filled with large rough flints, laid as hollow as possible: as the wells are sunk in the chalk, any drain from them was unnecessary. The hollow (*n*) along the middle was also laid with flints, and the whole bottom covered with a layer of brick-bats &c. about 18 inches deep; on this was laid a thin layer of coarse shingly gravel, still keeping the concave form. The bottom being thus finished, the depth left for soil is, in the back bed, along the centre, 4 feet 6 inches; and at the sides 3 feet 6 inches; thus giving the greater depth for the large plants in the centre. The front bed, being intended for plants generally of a more humble growth, is 3 feet 6 inches deep along the middle, and at the sides 3 feet. These were filled up in the following manner: first with a layer of thick rough turf, laid loosely and hollow by doubling them up, always keeping the grass side inmost; over this was thrown some clean water gravel, just enough to fill the hollow left amongst the turf; the layer was about one foot in thickness: the turf had been some time cut and exposed to the sun and air, &c. The next layer, about the same depth, was surface loam with the turf chopped up a little, and mixed with the most rooty and heathy part of a quantity of bog or heath soil, amongst which was thrown some sandy water gravel. While this was doing, care was taken to prevent any one from treading upon what was already laid. Thus far both beds were treated alike; and excepting in the front one, both layers were only about 18 inches in thickness.

The following four soils were previously prepared; viz. light dark loam; yellow mellow loam of a stronger quality; sandy bog, all cut with the turf laid in ridges, and frequently turned until perfectly sweet and mellow; and, the same sort of bog soil, only cut more recently, so that the turf was not rotted down like the others. For the back bed, the above was mixed in nearly equal quantities, to which was added some sandy gravel; this mixture was laid about 2 feet thick and then trod evenly over, and near the top the chopped turf was omitted and sand substituted in place of gravel. For the front bed equal quantities of bog and loam were used, adding the chopped turf and small gravel until within a foot of the surface. The turf was then omitted, and sand used in place of gravel, excepting in two places intended for clumps of camellias; and there two parts of loam and one of bog were used quite up to the surface. Allowance was made for the ground settling, and when planted, loam, sand, bog, turf, gravel, or pot sherds, was used under or about individual plants, as was thought necessary or agreeable to their different natures.

Along the back wall there is a border eighteen inches wide, drained and filled with soil in a similar manner to the beds. In this border is planted the geraniums and climbing plants which cover the back wall of the house, which is trellised with wire. At each pilaster, along the front and ends, are small beds of mould, in which are planted the climbers that run up the iron columns which face the pilasters.

When finished, the soil in the middle of the beds was from nine to twelve inches higher than the level of the walks, and rounded down to them. Along the walks, which are of Portland stone, is a curb of the same, two inches high by one and a half inch, rounded off at the top; this prevents the soil getting upon the walks when watering, and makes a good finish. The plants are all planted out in the beds, and grow luxuriantly, with scarcely an exception, although consisting of a collection of our best green-house plants, and some generally thought too tender for the conservatory.

The following are some of the principal and most conspicuous sorts: —

Acacia alata,
——— dealbata,
——— longissima,
——— pubescens,
——— pulchella,
——— speciosa,
——— venusta,
and several others,
Acrostichum alcicorne,
Andersonia sprengelioid.
Aralia sp. Nepal,
Araucaria Braziliensis,
two varieties,
Ardisia crenulata,
Azalea indica,
——— fl. pl. albo,
——— purpureo,
Banksia speciosa,
——— coccinea,
——— dentata,
——— æmula,
——— australis,
——— integrifolia,
——— verticillata,
——— littoralis,
——— latifolia,
——— oblongifolia,
&c. &c.
Beaufortia decussata,
Boronia pinnata,
——— serrulata,
Brachysema latifolium,
Brexia Madagascariens.
Brugmansia arborea,
Burchellia capensis,
Callicoma serratifolia,
Calodendron capense,
Calostemon speciosum
Calothamnus villosa,
Camellia Japonica,
——— sasanqua,
——— ros. &c.
Canna iridiflora,
Citrus decumana,
——— limonium,
——— nobilis, &c.
Correa speciosum,
Crowea saligna,
Cussonia thyrsiflora,
Diosma fragrans,
and eight other species,
Dryandra longifolia,
——— floribunda,
——— formosa, &c.
Elæocarpus cyaneus,
Elichrysum prolifer. &c.
Enkianthus quinqueflor.
Epacris grandiflora,
and all the species,
Erythrina sp. nova, Nep.
Eucalyptus pulverulent.
——— cordata,
Eugenia australis,
——— jambos, &c.
Eutaxia myrtifolia,
Ficus elastica,
Fuchsia gracilis,
——— arborea,
——— macrostemon,
——— apetala, &c.
Gastrolobium bilobum,
Gnidia pinifolia,
Grevillea sericea,
Hibiscus Patersonia,
Hovea celsi,
Jacaranda mimosæfolia,
Lambertia formosa
Lantana mista,
Lasiopetalum, 5 species,
Laurus glauca,
and other species,
Lomatia silaifolia,
Magnolia conspicua,
——— fuscata,
——— annonæfolia,
——— gracilis,
Melaleuca fulgens,
——— decussata,
——— pulchella,
——— fimbriata,
&c. &c.
Melastoma sanguinea,
Metrosideros speciosa,

Metrosideros lanceolata,
Musa coccinea,
Myrtus tomentosa,
Nandina domestica,
Nerium odorum,
Olea fragrans,
Passerina filiformis,
Persoonia linearis,
——— lanceolata,
Pinus lanceolata,
Pittosporum, 5 species,
Polygala, 10 species,
Protea argentea,
Psidium cattleyanum,
Rhododendron arbor.
Stenanthera pinifolia,
Telopea speciosissima,
Thea bohea,
—— viridis,
Theophrasta dentata,
Tristania laurina,
——— nerifolia,
Viburnum odoratissim.
Yucca superba,
—— rufo-cincta.

Climbing Plants.

Bignonia capreolata,
——— grandifolia,
——— grandiflora,
Brachysema latifolium,
——— undulatum,
Bryonia quinquefolia,
Ceanothus cæruleus,
Cissus vitigineus,
Fuchsia coccinea,
Glycine, 5 species,
Heliotropium sp.
Ipomæa sanguinea,
——— mutabilis,
Jasminum 6 species,
Passiflora racemosa,
the 4 Hybrid. var.
——— edulis,
——— maliformis,
——— adiantifolia,
——— pedata,
Rubus moluccanus,
Testudinaria elephant.
&c. &c. &c.

In the vestibule, stand plants in boxes or pots; being fine specimens, or fine flowering plants, of Orange-trees, Camellias, Proteas, the Chinese magnolias, Buonapartea juncea, Croweas Gardenias in flower, and Erythrina cristagalli (which last, when cut down and forced a little, will flower three times in the season). These plants are in flower great part of the summer, and are succeeded by camellias, salvia colorata, chrysanthemums, geraniums, &c. for the winter, There are also, in the recesses of the windows, between the pilasters, small stands, seven inches in height, upon which are placed small flowering plants in pots.

Under these stands are the ventilators, which admit the current of heated air and steam, together or separately at pleasure into the house.

We give water freely in the summer, generally with the rose, and frequently with the engine over head, at the same time opening the house, that the superabundant moisture may soon dry up. This, in the summer is done in the evening; and in the spring and autumn in the morning. During winter, the plants are watered individually, as their nature or state of growth may require; and at this season steam is substituted in place of the engine.

The water which falls upon the roof is conducted through the iron columns which support it into a large tank under the portico, and brought up again by a forcing-pump, for the supply of the house.

It is not intended entirely to expose the house, by taking off the lights, windows, &c. in the summer; as air can be freely and abundantly admitted, both by the windows and roof, independently of Mr. Sylvester's flues (*fig.* 13. *o*); so much so, that notwithstanding the great body of glass, during the hottest day of last summer, the thermometer in the Conservatory, and one out of doors in the shade, stood exactly at the same point, viz. 96°.

The ventilation by the heating apparatus I leave to Mr. Sylvester to describe. Its full heating power we have not yet had occasion to try, not having had any intense frosts. As far as it has been tried, I am satisfied that we have gained a desideratum in heating large houses. We were at a loss how to heat this immense house, steam not being thought sufficient unless the pipes were kept above ground; and Mr. Sylvester's hot-air stove, with which he proposed to heat it, would have produced too arid an atmosphere for luxurious vegetation. I suggested to Mr. Cockerell the possibility of combining the two together; he instantly saw the advantage to be obtained by so doing, and we have as yet every reason to be satisfied with the result. The medium fire heat kept up may be stated at 45 degrees.

I am, dear Sir, yours, &c.

P. M'ARTHUR.

The Grange, Nov. 15th, 1825.

Note. This opinion of Mr. Sylvester's mode of heating is amply confirmed by a subsequent letter from Mr. M'Arthur, dated the 1st of March last, received since the above was sent to press.

ART. III. *On Cultivating a Collection of Grasses in Pleasure-grounds or Flower-gardens, and on the utility of studying the Gramineæ.* By MR. GEORGE SINCLAIR, F.L.S., H.S., &c. Nurseryman, Author of Hortus Gramineus Woburnensis.

(*Continued from page* 29.)

DIFFERENT species of grasses affect different soils and situations, but generally in combination; in few instances solitary. The Aira præcox, on elevated, dry, and poor sands, where the whole plant scarcely attains half an inch in height, the Festuca ovina, Festuca vivipara, Poa alpina, Nardus stricta, Melica cærulea, &c. on heaths aud alpine situations, are in general solitary, growing in separate tufts or patches; the Arundo arenaria, Elymus arenarius, and Festuca rubra, on the blowing sands of the sea coast; the Glycerea fluitans, Aira aquatica, and Poa aquatica, in water, are almost the only exceptions to the almost universal law in the natural economy of the grasses, viz. that of growing in intimate combination with each other. If we may be allowed the expressions, the greater part of this family of plants are gregarious, while but few are solitary. In a recent publication on the subject of grasses (Hort. Gram. Wob. 2d. edit.), the above facts are illustrated by a number of details deduced from actual cultivation of the different species of grasses during a series of years. The facts there brought forward on this point clearly prove that any certain soil will maintain a greater, and produce more nutritious produce, if cropped with a number of different species of grasses, than it will maintain and produce if cropped with only one or two species. This is a curious and important fact, and which has been unnoticed in previous works on the subject, as well as neglected in practice. If an acre of good land is sown with three pecks of rye-grass, and one peck of the clovers, or trefoil, 470 plants only will be maintained on the square foot of such land; if a larger quantity of these seeds is sown, whether of these two species, or of any other two, the extra number of plants vegetated, (which will certainly appear at first if the seeds are good,) will decay in a short time, and leave blank spaces to be filled up with weeds or spurious grasses; or, in fact, plants of different species, supplied by the soil, manure, or neighbouring hedges. But if, instead of two species of grasses, from eight to twenty different sorts are sown on the same soil, or that now alluded to, a thousand plants will be maintained on the same space, and the weight of produce in herbage and in hay increased in proportion. (Hort. Gram. Wob. pp. 24. 245.) It may be truly said, therefore, that every variety of soil and situation, from the alpine rock to water itself, is provided with its appropriate grasses, destined for the support of animal life, and for covering the soil with the colour most pleasing to man.

The shades of green colour in the herbage of the different grasses are numerous, and highly interesting, as may be proved by applying these varieties of tints to the test of the practical system of colours, by that eminent artist, G. Hayter, Esq. exhibited in the diagram inserted in the Hortus Ericæus Woburnensis; or by comparing at the same and at different seasons a select number of the leaves of distinct species. The colouring matter of grasses, when the saccharine and mucilaginous principles are in much less proportion, as is found in the leaves or lattermath late in autumn, in general accompanies the solution of the constituents of the nutritive matter. After the first evaporation of the solution, the green colouring matter may be destroyed and again recovered successively, by alternate solution and evaporation in water and in alcohol. The important law in the natural economy of the grasses before alluded to, which provides that a number of many different species should always be found intimately combined; that one species should not exist or thrive for any length of time by itself, even in its natural soil; and that a greater number of plants is maintained on the same soil, and a greater weight of produce obtained by many different species being intimately mixed together, than can by any art or means be effected from an equal space of ground, by the cultivation of any one or two individual species of grass, has lately been made available in practice with great success in the formation of rich permanent pastures, converted from tillage land, as well as in that of artificial pastures of the alternate husbandry.

But, besides the important uses above enumerated, we may observe that the culms or straws of several of the grasses afford a most valuable article of manufacture for bonnets, mats, and of various ornamental works. The culms of several of the perennial grasses afford a material which, in proper hands, may be manufactured into an imitation of the Leghorn straw plait, far surpassing the original, *even the finest of them*, in texture and in durability. If the subject be properly encouraged by the public, and persevered in by the manufacturers, there is not a shadow of doubt but that England would become, and that at no remote period, an exporter, instead of, as at present, an importer of this useful and ornamental part of dress.

The Elymus arenarius, Arundo arenaria, Festuca rubra, and Poa maritima, arrest the inroads of the sea on the land; their habits or tenacity of life are such as to enable them to grow and flourish on the blowing sands of the beach, which collect around these plants, forming hillocks; the Elymus arenarius, being the most robust, occupies and secures the top, while the Arundo arenaria secures and supports the sides, and the last two species are found straggling on the level sand, preparing a foundation for the latter; the creeping Fescue I have found on the beach near Skegness, with roots extending six feet in length in the blowing sands.

A consideration of these various properties and important uses, peculiar to the different species of grasses, and of which a slight and short mention only has now as above been made, will be found to infuse itself into every botanical investigation of the species, and render the cultivation of a proper collection doubly interesting.

A collection, consisting of from two to four hundred species of the most interesting kinds, may be formed and kept up at but little trouble and expence.*

The Hortus Gramineus, in the gardens at Woburn Abbey, belonging to the Duke of Bedford, may serve as a model for forming such a compartment in a pleasure-ground as is capable of affording the pleasure and instruction alluded to in the foregoing observations. The spaces allotted to the proper grasses are in number two hundred and forty-two, of two square feet each, inclosed by cast-iron frames. Paths of gravel two feet nine inches wide separate the spaces on every side; these are surrounded by a path three feet wide, with a border for the herbage plants, such as clover, lucern, saintfoin, vetches, &c. A hedge of hornbean separates the compartment from the rest of the grounds, and an outside border of roses completes the grass-garden. The entrance to it is a Grecian structure, designed by J. Wyattville, Esq.; the grass-garden was designed and executed by myself, then the Duke's gardener.

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* Collections of several hundred species of grass seeds may be obtained at Cormack, Son, and Sinclair's, 53. Regent Street, or New Cross, Surrey.

At the Nursery Gardens, New Cross, Surrey, a grass-garden (*fig.* 14.) has been established, for the supply of seeds of all the different species; and, for exhibiting to agriculturists and farmers living specimens of the most useful grasses.

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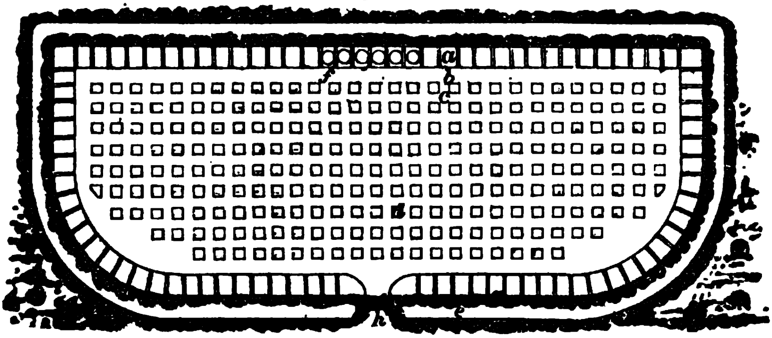

In this garden, *a*, represents a border for the herbage plants, as clover, trefoil, lucern, saintfoin, &c.; likewise for new or dubious varieties of grasses, and for experiments and trials generally.

b, A path or walk of sand or gravel. *c*, Paths between the different grasses. *d*, Spaces inclosed by iron or timber borders, for the perennial and known annual grasses.

e, Border furnished with two rows of roses; the back row consisting of moss roses, and the front row of rose unique.

f, Leaded tubs, or tanks, for the aquatic grasses, or such species as live in water.

g, Hedge of hornbean, holly, box, or privet, to inclose the grass-garden, or compartment, from the rest of the surrounding garden or grounds.

h, Entrance to the grass-garden.

In planting a grass-garden thus formed, it is of importance to suit the different species of plants with their natural soils; this is easily effected, as the separation of the spaces allotted to each by the gravel or sand paths prevents any admixture from the rains, transplanting, or other accidental circumstances. The plants should be arranged according to their natural affinities, as affording the greatest assistance to the memory, and presenting the most pleasing general view of the different species constituting the natural order.

I am, dear Sir, yours very sincerely,
George Sinclair.

New Cross Nursery,
Nov. 30th, 1825.

Art. IV. *Remarks on Mr. Thompson's Observations on the Effect of the Lombardy Poplar in Park Scenery.* By Richard Morris, Esq. F. L. S., Surveyor and Landscape Gardener.

The poplar, as an ornamental tree, does not possess beauty, grandeur, or the qualifications of the picturesque; yet in combination it may, for the purpose of opposition of character, be introduced into scenery with advantage; and it is upon this principle that Mr. Thompson recommends this tree to notice. No one can differ from Mr. T. upon the rule on which his recommendation rests, "that horizontal lines should be balanced and supported by perpendicular lines" — what induces me to make any comment upon his illustration of this subject, is to endeavour to prove a better adaptation of forms to the scenery presented; and to show, that although horizontal lines require to be balanced and supported by perpendicular lines, much depends on the contour, forms, and outlines of the adjacent objects and scenery. Although Mr. T. has studied well the description of his subject, he has not succeeded so well in the elucidation. In the sketch, No. 1. of his article upon this subject, in the first Number of the Gardener's Magazine, in illustrating his argument, he has introduced perpendicular forms which are prejudicial to both pictorial and scenic beauty. I agree with Mr. T. that the bridge requires perpendicular forms to oppose its horizontal lines, but the plantation behind the bridge, where by the intermixtures of poplars an agreeable irregularity of outline is produced, would have been sufficient for this purpose, at least as far as poplars should contribute their aid. From the manner in which this plantation ranges with the scenery, it was indispensable to introduce poplars, otherwise the broad masses of foliage would have formed an horizontal and somewhat parallel line with the top of the bridge, which would have been offensive to the eye, and would have frustrated the intention. Since perpendicular forms are introduced in the fore-ground, this plantation at the back, viewed as regards pictorial effect, is unnecessary as a mean for introducing perpendicular forms. Had merely an undulating character been preserved instead of so decided an irregularity of outline, the grandeur of the effect would have been much enhanced; for then the straight lines of the bridge, the curved line of the retiring plantation, and the rude outline of the distant mountain, would have supported each other mutually. Add to this, that lofty objects ever contribute toward a deception; and though this deception may sometimes be advantageous, it is more frequently injurious by causing objects to appear much nearer than their true situation, and consequently the distant scenery which they illustrate will appear to approach: the introduction of a few poplars in the fore-ground would have been a sufficient opposition of forms — this is elucidated in the sketch below. (*fig.* 15.)

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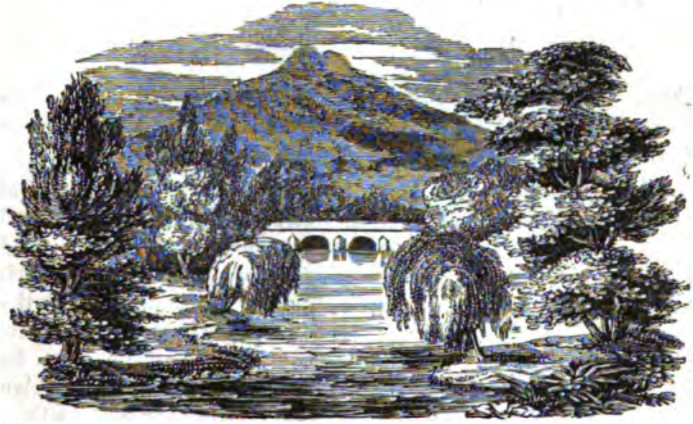


Here perpendicular forms are employed in opposition to those which are horizontal, in addition to which curved lines are introduced, thereby illustrating that curved as well as perpendicular lines agreeably oppose horizontal lines; and although it be admitted that horizontals require perpendiculars for the purpose of opposition, still it should be remembered that low and broad, require lofty objects for their support: thus, in the fore-ground, broad masses of foliage are introduced, mixed with the spiral form of the poplar to contrast with them.

With regard to the introduction of poplars in scenery generally, they should be so dispersed as never to appear alone.

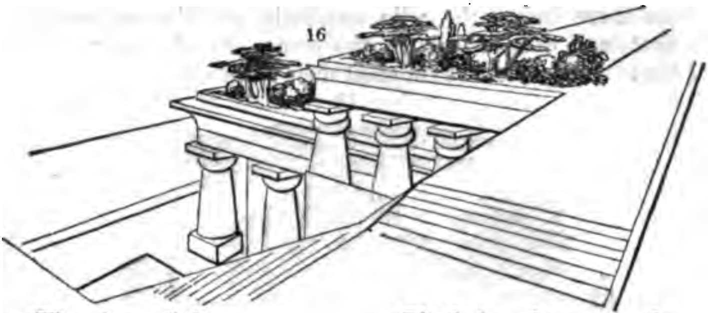
Their decided stiff form is objectionable either in nature or in representation, unless supported towards their base by some contrasting foliage and forms. In park scenery it would be highly objectionable to introduce poplars, either singly or in groups, unsupported by any other trees, as their style of growth is so much at variance from that natural irregularity of character so essential to the picturesque. Where they are embodied in plantations of various characters of growth, their towering forms may contribute to produce grace, dignity, or grandeur. The effect of this composition Mr. Thompson has happily elucidated in his sketch No. 3. With respect to the continued lines of reflection produced in the water, I imagine that this would have been considerably improved by the introduction of pendant forms, as the weeping willow, which, assisted by trees of a more circular character, in conjunction with that of the poplar, would have very much enhanced the beauty of the scenery.

45. Vincent Square,
February, 1826.

ART. V. *Remarks on the Effect of the Cedar of Lebanon, in Landscape.* By JOHN THOMPSON, Esq. Pictorial Draughtsman, and Student of Landscape Gardening.

THE cedar of Lebanon assumes a very romantic and imposing appearance, and from its frequent mention in sacred history, is ever associated with ideas of grandeur and architectural magnificence. There is even something architectural in its form; the thick upright stem, supporting the horizontal branches, in a great measure accord with the pillars and copings of buildings. This may be seen by reference to the inspired pictures of Martin, when Assyrian history has been the subject of his pencil. — He has realized all that the most vivid imagination could conceive of Eastern splendour — and the famous hanging gardens have not been forgotten. In them the cedar is the most prominent tree, which he has shown mixed with cypresses, and a few low shrubs and flowers forming a mass simple but grand, and quite in unison with the architectural character of the scene. The accompanying sketch (*fig.* 16.) is from an etching of the destruction of Babylon, and represents part of the hanging gardens.

Thus it may be inferred that cedars should always be the accompaniment of palaces, public buildings, and superior residences, though they are seldom met with so situated.



The finest I have seen are at Blenheim; but even there they are not much contrasted with the architecture, but are spread generally throughout the whole of the gardens; and they appeared to me in a great measure lost from being so mixed up with other trees and shrubs; however, they serve to maintain the character of grandeur which belongs to this place. On the banks of the great lake, where the present Duke, since he left White Knights, has formed his new flower-garden, extending from the house to the cascade, there are some very fine cedars, and it is curious how well they accord with the simplicity of flower and garden scenery; but this may be accounted for by their being supported by other large trees — from the extensiveness of the gardens, and from every thing around being on so grand a scale. For there are some garden scenes in which they would be found not only misplaced, but out of character and injurious; as in the grounds of a small modern villa, such as are to be found five or ten miles from town; there they would be quite at variance with our ideas and associations, as to what should attach to such a place. The accompanying sketch (*fig.* 17.) though it forms a tolerable picture, will, I trust, illustrate what I have been stating. The villa is rendered insignificant by the stately presence of the cedars; and the cedars seem to have

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been there before the villa was built, as if they came by accident, and were foreign to the scene. In the next sketch (*fig.* 18.) where I have supplied their place with a few pendent

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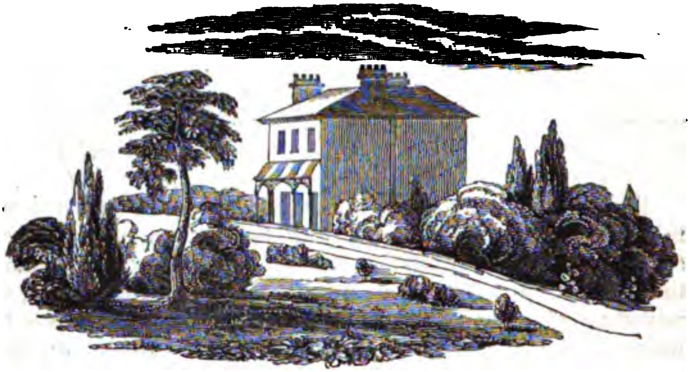


and appropriate trees, the whole seems more consistent, more complete, and in better keeping.

The form and character of the cedar is not suited to any thing on a small scale, or that betrays want of effect in its architectural features, or in the disposition of the ground: thus one would not place them in the centre of a home meadow, or arable field, where oaks and elms are sometimes met with, having a very good effect; nor should they ever appear where the scenery is either domestic, or homely, or tame. Nothing annoys me more than to find a cedar, a cypress, or other stately tree, contrasting itself with hay-stacks, and dove-cotes, in the garden of some old farm-house, which, though little remain of its former greatness, might originally have been the residence of the lord of the manor, or some titled person: yet some of these old-fashioned red-brick residences are to be occasionally met with in their original state; their terraces adorned with vases and figures; the gardens in the old geometric stile, with costly iron palisading, &c.; then the addition of a few venerable cedars will generally form a highly picturesque and pleasing view.

The cedar will not bear to be planted too thickly, or too close together; it should be placed by twos and threes in conspicuous situations, such as on small mounds, or by the side of water, next bridges or temples; sometimes on lawns, or rising grounds that command extensive prospects, where it may serve as a fore-ground; but they must not be made common by being seen at every turn: too many of them will always destroy their effect, they are of such an exclusive character, that they are more calculated to act upon a scene as figures do in landscape composition, than to form the basis of it. A red-coated soldier or two, would enliven a view, but a file of them would be anything but picturesque: unless, indeed, in a battle scene, where they formed the principal feature. So it should be with the cedars; if they must be together, let them form a grove; they would then have a character of gloomy magnificence, which might be a very fine addition to a residence. I should imagine that such a grove of full-grown cedars would be highly interesting and attractive. We will just suppose that the banks of an artificial river or lake were bounded on one side by grassy hills, planted with a few evergreens and birches, and that the other side was a gentle slope covered with a grove of cedars; that a winding and almost natural path conducted you among their ponderous stems; that the grass was kept tolerably free from weeds, that holly-hock, pæonies, roses, and other flowers of a large and imposing character, were raising their heads here and there, and that the woodbine was also twining around some of the stems; then suppose a clear summer evening, the water reflecting the yellow light of the sunset, and the stems of the cedars touched by its rays, and I think we shall have conceived one of the calmest and most solemn scenes that could be found in nature, or that it is in the power of art to create. In the annexed sketch (*fig.* 19.) I have endeavoured to convey some idea of the subject, but the smallness of the scale, and the absence of colour, are much against my pourtraying such a scene.

19

I would not recommend the introduction of cedars into plantations, or belts, as they are generally lost amidst the other foliage; and if brought to the edge, form too much contrast with what is around them; they may be sparingly introduced in clumps, and should always take the lead; a few dwarf, round-headed trees or shrubs, with the poplar or cypress, are the best to group with them. (*fig.* 20.)

20

However, they are much better solitary; and in the fore-courts of palaces or other buildings of sufficient consequence, I would have nothing but a cedar or two. It is said that the new palace erecting on the site of Buckingham House is to have a large area before it, surrounded by a railing of Mosaic gold: — the broad carriage-way, the dark grass, and a few cedars, are all that I would introduce in it; unless it were a very few flowering shrubs, holly-hocks, or standard roses, and these not in dug beds, but on the grass.

There are two cedars on a small mound at Sion House; these are seen from the Thames, and are sure to attract the attention of every artist. I have seen numerous sketches and drawings of the scene around them, and I may venture to say, that it was the cedars, and they only, that were the inducement. Those in the Botanic Garden at Chelsea are never passed unheeded; thus showing how valuable they are in landscape composition, and consequently in landscape gardening.

No. 1., *Wellington Street, Strand.*

ART. VI. *On forcing Roses.* By R. A. SALISBURY, Esq. F. R. S., &c.

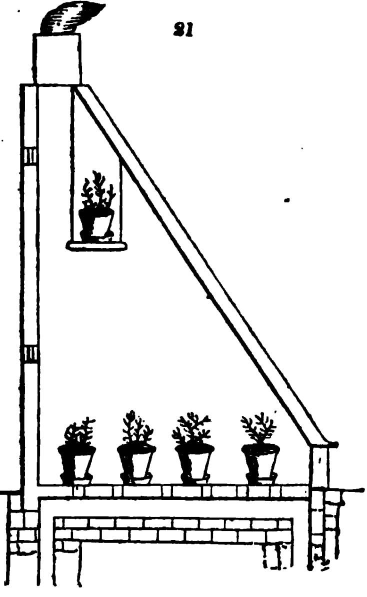
THE most successful method of obtaining these delightful flowers in great perfection during the winter months, which I am acquainted with, is as follows; but it takes three years to get them strong enough to produce a full crop; and I do not here include the Chinese roses lately introduced, which, under glass, blow naturally at all seasons; but those varieties which we only see in summer, especially the *Provence*, *red Provence*, *moss Provence*, and *white Provence*. A few plants of the *maiden's blush*, *damask rose*, *red rose*, and *York and Lancaster* may be admitted after January, but they do not succeed sooner.

Take off strong suckers about the end of *October* or beginning of *November*, with all the fibres they may have formed, which can only be well done by digging up the parent stock. Plant these suckers in pots only about four inches diameter at the top, winding the sucker three, four, or five times round the inside of the pot, and prune it ~~more or less according to its length~~, so as to leave no more than two buds, or three at most, above ground. Fill the pots with hazel loam, mixed with one third of vegetable mould, pressing it firmly down to keep the sucker from starting, and plunge them to the brim close to one another, quincunx fashion, in an open bed, fully exposed to the sun and air. The small size of these pots ~~may surprise many gardeners,~~ ~~but~~ the plants ~~will~~ produce stronger blossoms ~~in them than might be supposed,~~ even the first year, if the suckers are large; and as they are to be shifted annually, it is absolutely necessary to begin with small pots. To have a plentiful supply of blossoms during the months of December, January, February, March, April, and May, from 100 to 300 suckers must be thus prepared.

For the plants to be forced from December to March, a small frame should be devoted, about twelve feet long, five feet wide, seven feet high behind, and only six or eight inches in front (*fig.* 21.); this pitch ~~I have found by long experience to~~ admits the rays of ~~the sun or~~ light, at that period, to strike upon the plants to the greatest advantage. ~~I prefer~~ a flue running ~~through the whole floor~~ from one end to the other, ~~which~~, if built thick, and the fire-place as well as chimney-top be well closed up, after the heat has penetrated the flue, the air within will be sufficiently

or [illegible]

21



heated, with very little fuel, and require no attendance at night, except in very severe frost. The back of this frame may consist of wood, or a narrow brick, at pleasure, and should have a door in the middle, just sufficiently large to admit the gardener to creep in and water the plants by reaching over them from one side to the other, without any walk inside. A strong latticed floor must be fixed six inches above the flue, on which the pots must be placed when introduced, and these must have a pan or receiver under each, ~~not only to catch any~~ of the ~~manured water,~~ ~~which~~ I ~~recommend, but~~ to prevent the heat of the flue, which will now and then be smart, notwithstanding every precaution, from striking directly on the pots themselves. After the month of March, roses may be advantageously forced in other houses and situations, but hardly sooner, except on the front flue of a pine-stove; and a small frame like this is not only built and maintained at a small cost, but the lights may be used for other crops, especially melons, after June.

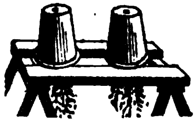
The plants, to be forced into blossom by Christmas day, should be placed in this frame on the 1st day of October, lighting fires gradually, so as to keep the temperature in the day time rather increasing than decreasing from 60 degrees of Fahrenheit to 80, but at night ~~much lower~~; if the plants meet with one frosty night or two in the beginning of October, so much the better, for they will push more vigorously after the heat is applied. The first year, none of the crop will come in so early as afterwards, and I advise all the young suckers to be forced in succession the first year, not waiting till they have had one year's growth in the open air; moreover if the suckers are strong, they will produce more blossoms than might be expected.

If the second crop of plants be introduced on the 1st of November, they will blossom from the middle of January to the middle of February; those of the third crop, introduced on the 1st of December, from the middle of February to the middle of March; those of the fourth crop, introduced on the 1st of January, from the middle of March to the middle of April; those of the fifth crop, introduced on the 1st of February, from the middle of April to the middle of May; those of the sixth and last crop, introduced on the 1st of March, from the middle of May till the middle of June; when several varieties in the open ground begin to blossom.

As soon as the plants begin to push their buds, whether any aphides appear upon the young shoots or not, fill the frame with tobacco-smoke, and do not fail to repeat this every third week till the flowers appear, smoking for the last time just before any red tints appear on the earliest buds. No unpleasant smell of the tobacco will remain upon the plants after a day or two. The young shoots must also be carefully examined when only half an inch long, and any *grubs* feeding upon them destroyed.

After the blossoms are gathered, the plants must not be removed to a back shed, but kept in the frame, or brought back into it, if they have been taken into the apartments of the owner, permitting them to grow as they do in summer in the open air, for at least two or three months. They must then be placed in a shady situation, and kept rather dry than moist, to throw them into a state of rest; after the month of May, ~~I~~ prefer inverting them, especially the earlier crops, between two planks raised upon tressels, high enough to prevent the branches from touching the earth, as in the annexed sketch (fig. 22.); having for twenty-five years experienced the utility of this treatment, and suspecting that it strengthens the future blossoms by retaining sap in the branches, which would otherwise descend to the root or form suckers.

~~22~~



While the plants are growing they must be constantly supplied with moisture; ~~that which I employed with great advantage consisted of~~ water and pigeon's dung infused in it a few days before, in the proportion of one ounce to a gallon of water. Where pigeon's dung cannot be had, two ounces of sheep or deer's dung may be substituted to each gallon of water.

It now only remains to add ~~what~~ is the most important ~~point of all to attend to~~ in forcing roses, and that is to mark all the plants, so that those introduced into the frame in October, the first year, may be introduced on the same day the second, and every succeeding year; and I know no ~~method of doing this~~ ~~so~~ effectually ~~as~~ to paint No. 1, 2, 3, &c. upon the pots themselves. Sticks and ~~marks~~ are liable ~~to decay~~, ~~or~~ to be changed by accident or negligence. Every year, about a fortnight before the plants are forced, they must be shifted into larger pots, exactly one inch wider in diameter and not more, turning them out without breaking the ball or disturbing any of the fibres, and filling the pots with the same compost of hazel loam and vegetable earth. By this method the same plants may be forced for ten years without the inconvenience of using a very large pot, as the last season they will not want to be removed, or may be shifted into the same pot again. With respect to pruning, I have never been in the habit of leaving more than two buds on each branch, and as the plants increase in size and number of branches, often only one bud upon the weaker branches; it is much better to have from ten to twenty strong blossoms than a larger number of weak ones, and the foliage is likewise more healthy.

Art. VII. *History, Description, and Mode of Treatment of Bishop's Early Dwarf Pea.* By Mr. David Bishop.

Sir,

I send you some seed of an early pea, which I believe is not at all known in England, and only to a few of my friends and acquaintance in Scotland; among whom, it has attracted considerable attention, and is known by the name of Bishop's Early Dwarf.

The following is a short historical notice and description, with an account of the manner of treatment; which, should you deem worthy of a place in the Gardener's Magazine, is at your disposal. I obtained this pea some years ago from a large sowing of the Spanish Dwarf. At that time it had nothing to recommend it to notice, but that of being dwarf and early. Indeed it had the appearance of a bad bearer, for upon the plant I found, were only two pods; but I considered it, even in that state, worthy my attention. I saved its seed, and grew it in pots and boxes for two years, and each year it increased in productiveness. On the third year I sowed it in a warm border, and was happy to find, I had not only got an early, and dwarf pea, but at the same time a very productive one.

The height that it attains even in the richest soil, is seldom more than twelve inches; but as it produces a great number of branches it occupies a considerable breadth. The pods are of moderate size, and the peas they contain (*fig.* 23. *a*) are larger than the Early Frame (*b*) or even the Charlton. (*c*)

23

The flowers are large, and a border or plot in bloom has a fine appearance. Respecting its productiveness it will be found fully to equal either of the above mentioned sorts, and in very good soil to surpass them. From its dwarf size, it will be found admirably adapted for small gardens; and for an early crop, it may be sown close to the bottom of a wall, where it may be easily protected from the Spring frosts, if found necessary, by placing a board length-wise in front, with the upper edges resting on the wall, and the lower on the ground. Or, the upper edges may be fixed to the wall, by means of hinges, or thongs of leather, and kept tied up in good weather, and let down in bad. I have, however, in this country, without using any means of protection, gathered a dish of good peas on the 23d of May. I have likewise sown the produce of peas which came to maturity in June and July, and obtained a good crop in the Autumn of the same year. But what I consider most worthy of attention is, that its dwarfness and earliness point it out to be the only fit pea for forcing; and I consider it in the power of every gentleman who is possessed of a small pit or peach-house, to have young peas at his table, at least during the months of April and May.

When sown in the open ground, this pea should have nearly the same room given it as French beans have; that is, about eighteen or twenty inches between the rows, and from one inch to two inches between each pea: this will be found quite thick enough; and as a quart will go over as much ground as a peck does in common cropping, there will be found a great saving of seed.

I am, Sir, &c.

New Scone, near Perth, DAV. BISHOP.
10th Dec. 1825.

P. S. The method of rearing peas in pots and boxes, in hot-beds, and hot-houses, and afterwards transplanting them out into the open ground, is a common practice with gardeners, and often succeeds very well; particularly if they are not too long in transplanting them; but I would recommend a method, not so well known, as far preferable to that of pots or boxes, particularly when they are to be raised in a hot-bed. This consists in having a quantity of turf cut into pieces, of about nine or ten inches long, and three or four broad, which are placed in a regular manner over the surface of the bed, grass side downwards, and a row of peas is sown upon each row of turf, and afterwards covered with soil; when they are fit for transplanting, no more is required, than to lift out the turf, piece by piece, with the peas growing upon it, and place them where they are to produce their crop. By this means the roots receive no injury; nor does the plants sustain the least check in transplanting. This method may be practised, with similar success, in the raising of potatoes, beans, &c.

Note by the Conductor.—We have distributed the peas sent us, among Messrs. Malcolm and Gray, Cormack, Son, and

Sinclair, and some other eminent seed growers; the Horticultural Society have received some from Scotland since ours arrived. We consider this pea a most valuable acquisition to the horticulturist.

Art. VIII. *On a new Mode of training the Peach-tree, invented by* Mr. J. Seymour, *and communicated by* Mr. William Seymour, Gardener at Weddington, and Mr. Duff, Gardener to the Earl of Grosvenor, at Eton Hall.

We have received two letters on this subject, which, being of considerable importance, we shall insert the principal part of both of them, and add an explanatory note of our own.

Sir,

I have taken the liberty to inform you of a peach-tree that is trained, I believe, in a different manner from any that is mentioned in your Encyclopædia. It is growing in the garden of Miles Stapleton, Esq. at Carlton, near Snaith, Yorkshire, and was planted, a two years' old tree, in the year 1806, and at this time extends forty-five feet, upon a ten feet wall, which is perfectly covered with it. It consists of forty-four principal leading branches, which are nailed in direct lines, at regular distances, in the fan form; each of the leading branches is regularly furnished with young shoots from the stem to the extreme, and all of these young shoots on the upper side. But the greatest peculiarity in this tree is, that all the shoots that bare fruit last year, are taken away and replaced with young shoots for the present year's bearing; so that there is scarcely any wood more than one year old, except the leading branches. The above-mentioned tree, with others trained in the same manner, is greatly admired by all the gardeners in that part of the country; and those gardeners who have seen both them, and Mr. Harrison's of Wortley, look upon the former as superior, both in training and the production of fruit.

Should you be inclined to inquire further as to the above account, I should wish to refer you to Mr. Buchanan, of the firm of Buchanan and Oldroyd, Camberwell, Surrey; or Mr. James Backhouse of York; both of them having seen the trees.

I am, Sir, &c.

William Seymour,
Gardener to Lionel Place, Esq.

Weddington, near Nuneaton, Warwickshire,
Jan. 21, 1826.

Sir, *Eaton Hall, Feb. 5,* 1826.

Amongst the various methods of training the peach-tree, recommended by different writers on that subject, there is one which I have not seen in any author that I have read. A short account of it, with a sketch, was sent me a few years back, by Mr. J. Seymour, the inventor, at Carlton, near Snaith, Yorkshire. Being convinced of its superiority over every other system I had seen, I immediately adopted it in as near a manner as I could with old trees, and in the following manner with all my young ones.

A maiden plant must be cut down to three eyes, and three shoots being produced, the two lower ones are left at full length, and the succeeding Spring the centre shoot is again cut down to three eyes. At the time of disbudding the trees, all the buds on the lower side of the two horizontal branches are rubbed off, and buds are left on the upper side of the branches at a distance of from nine to twelve inches from each other. These are suffered to grow five or six inches, and are then stopped; but still suffering the leading shoot to extend itself. At the second Spring pruning, the centre shoot is again cut to three eyes; or, if the tree be very vigorous, five eyes may be left; two for each side, and a centre one for again furnishing leading shoots. The leading shoots are laid in in the fan form, nine or ten inches from each other; the shoots on the leading branch are nailed to the wall in Summer, but after the Winter's pruning, they are tied to the leading shoots with strands of matting; thus keeping the space between the leading shoots clear, for the succeeding Summer's shoots to be nailed in, where they get well ripened, and mature their buds for another crop. At the Winter's pruning they are cut to three or four inches, according to their strength.

I visited Carlton in January, 1825, and I never saw more healthy and regular trees. Having occasion to write to Mr. Seymour lately, I requested him to give me some account of a particular peach-tree, trained in this way, which, at the time I saw it, I much admired, and the following is an extract from his letter.

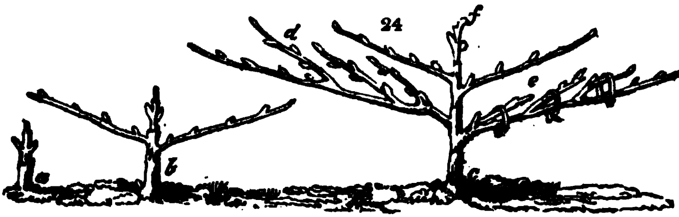
"This tree was planted in the year 1806, and has been under my management to this present time, 1824. It covers just forty-five feet in length of a ten feet wall, which is regularly covered. It consists of forty-four principal leading shoots, which are nailed in direct lines, at equal distances, in the fan form; each of the leading shoots is regularly furnished with bearing shoots, at about twelve inches asunder, from the stem to the extreme point, and all of them on the upper side. There is one peculiarity in this system of management which is entirely new, that all the shoots at the Spring pruning, which bare the fruit the last year, excepting the terminal shoots, are all cut away, and the places supplied with young shoots for the present year's bearing. By this method we keep our trees regularly furnished with young wood in every part of the tree, without having the least confusion, and every part gets an equal advantage of both sun and air, so that our fruit is large and well flavoured, and I have not failed of a regular and good crop of fruit for the last sixteen years. It is certainly the easiest and most regular method that I have ever seen, and answers every purpose which gardeners have been aiming at ever since the peach-tree came under their observation."

When the advantages of this method of training come to be known, I have no doubt but it will be generally adopted.

I am, Sir, &c.
C. Duff.

Note. — If we understand the above description, then the maiden plant being headed down ~~(*fig.* 24, *a*)~~, the first Winter

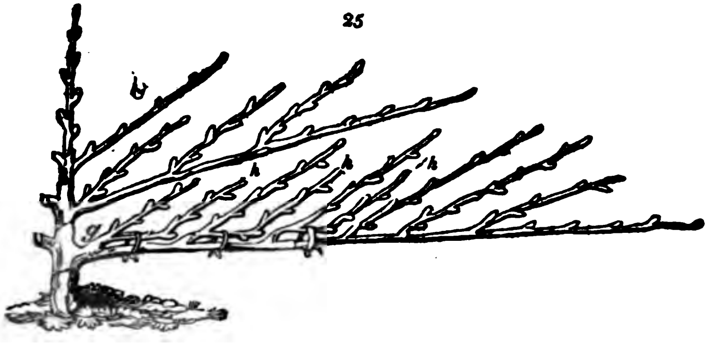
24



will present two side shoots, and the upright shoot shortened to three buds (*b*); the second year at the end of Summer, there will be four side shoots, and six or more laterals (*c*); in the following Spring pruning the laterals (*d*) which had been nailed to the wall, are loosened and tied to their main shoot (*e*), and the upright shoot shortened to three buds (*f*) as before.

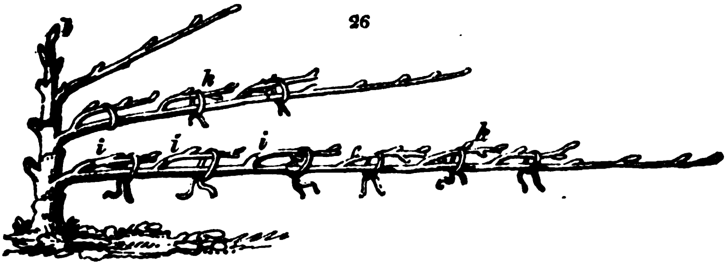
At the end of the third Summer the laterals will be doubled on the old wood, by one having sprung from the base of the shoot tied in ~~(*fig.* 25~~ (*g*), and another from its extremity. (*h*)

25



In the pruning of the following Spring the laterals of two years' growth which had borne fruit are cut off close, and the young laterals which had sprung from their base ~~(fig. 26~~(*i*), are

26



loosened from the wall and tied down to succeed them; the other laterals (*k*), are tied in, and the upright shoot shortened (*l*) as before.

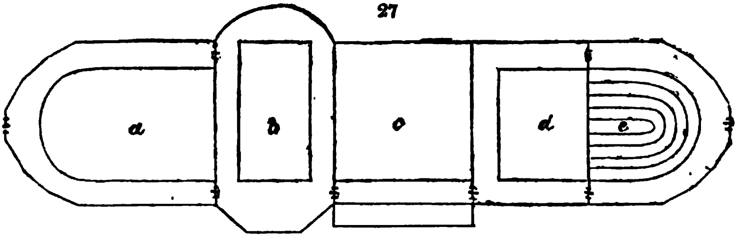
Now, or before, the side shoots will have to be headed down once, or even twice, so as to increase their number, and regularly cover the wall. The extent to which this practice is carried, will depend on the height of the wall, and the distance of the trees from each other; the ultimate object being to produce a fan form, as regular as possible, of permanent wood, with no young wood thereon besides what is produced along the spokes of the fan on their upper side, at about 12 inches apart, and the prolongation of the shoots.

Art. IX. *A Catalogue of Ericæ, in the Collection of* George Dunbar, Esq. F.R.S.E. &c. Professor of Greek in the University of Edinburgh. Communicated by the Professor.

Sir;

I have sent enclosed with this a catalogue of the Ericæ in my possession, that you may insert it, if agreeable, in the next, or any subsequent Number of your Gardener's Magazine. I do not suppose that more than four or five plants are wanting to complete the number; though of this I am not quite certain, as some old plants have died this Winter, and I have not yet had an opportunity of examining whether I have others to replace them. My heath-house forms the southern extremity of a range of houses, extending in all to somewhat more than 100 feet, and fronts the south. (*fig.* 27.) It has abundance of light, as it is lighted on all sides, with the exception of about nine or ten feet of a back wall, of the height of nine feet. On the north I have a conservatory, fifty feet in length, by eighteen in breadth. (*a*) Next to it is a vinery, twelve feet wide, and eighteen or so in length (*b*): then a small stove (*c*), and adjoining it the heath-house. (*d*) The form in front and at the extremities is somewhat of the following description. (*fig.* 27.) The glass in front in the conservatory is four feet and a half in height, and rests upon hewn stone, and is, with the stone, about eight feet from the surface. The whole height is rather more than fifteen feet. The back wall is of brick, of the same height as the front. The sashes, springing from both, meet in the centre, at the height of nearly sixteen feet from the surface. If you are acquainted with any person here who could take a sketch of the whole, you shall be most welcome to obtain it at any time.

27



I am much pleased with your Magazine, and think it contains a great deal of very useful information. If I have any information at any future time to communicate, I shall send it to you with much pleasure.

I am, &c.
GEORGE DUNBAR.

Rose Park, near Edinburgh,
5th February, 1826.

A.
1. Acuminata
2. Acuta
3. Acutangularis
4. Aggregata
5. Aitonia
6. Alopecuroides
7. Albens
8. Amæna
9. Ampullacea major
10. Andromedæflor. rub.
11. Arborea
12. Arbutiflora
13. Arbuscula
14. Archeria
15. Ardens
16. Aristata major
17. ——— minor

18. Assurgens
19. Australis
20. Aurea
21. Actea
22. Ampullacea minor
B.
23. Baccans
24. Bandonia
25. Banksia alba
26. Barbata major
27. Bergiana
28. Bicolor
29. Biflora
30. Blanda
31. Blandfordia
32. Blæria
33. Bonplandia
34. Bowieana
35. Bruniades
36. Bucciniformis
C.
37. Caffra
38. Calycina
39. Calycina capitata
40. Campanulata
41. Canescens
42. Carinata
43. Carneola
44. Cerinthoides major
45. ———— minor
46. ———— alba
47. Cernua
48. Cistifolia
49. Ciliata
50. Cinerea
51. Clavæflora
52. Cliffordia
53. Coccinea
54. Colorans
55. Comosa rubra
56. ——— alba
57. Concava
58. Concinna
59. Conferta
60. Congesta
61. Conspicua
62. Coronata
63. Costata
64. ——— superba
65. Coventryana
66. Cruenta
67. Cubica major
68. ——— minor
69. Curviflora
70. Cussonia
71. Cylindrica
72. Cupressina
73. Cerifolia
D.
74. Daphnæflora
75. Daphnoides
76. Declinata
77. Decora
78. Demissa
79. Densa
80. Denticulata
81. Depressa
82. Dickensonia alba
83. ———— rubra
84. Discolor
85. Divaricata
86. Dioscoridis
E.
87. Echiiflora
88. ——— superba
89. Ewerana
90. Elata
91. Elegans
92. Elongata
93. Empetrifolia
94. Empetroides
95. Epistomia
96. Eriocephala
97. Erubescens
98. Ewerana pilosa
99. ——— superba
100. Exsurgens
101. Exsudans
102. Expansa
103. Exerta
104. Erosa
F.
105. Fastigiata
106. Ferruginea
107. Filamentosa
108. Fimbriata
109. Flaccida
110. Flagelliformis
111. Flammea
112. Flava
113. —— albida
114. Floribunda
115. Florida rubra
116. ——— alba
117. Formosa
118. Fragrans
119. Fulgida
120. Fulva
121. Furfurosa
122. Fascicularis
G.
123. Gelida
124. Gemmifera
125. Glabra
126. Glauca
127. Glomerata
128. Globosa
129. Gracilis
130. Grandiflora
131. ———— humilis
132. Grandinosa
H.
133. Halicacaba
134. Hibbertia
135. Hirta
136. Hirtiflora
137. Hispidula
138. Humea
139. Hyacinthoides
140. Hybrida
141. Horrida major
142. ——— minor
I.
143. Ignescens
144. Imbecilla
145. Incana
146. Inflata
147. Infundibuliformis
148. Insalsa
149. Intertexta
150. Irbyana
151. Incarnata
152. Jasminiflora alba
153. ———— rubra
154. Juliana
155. Jubiana
K.
156. Kennedia
157. Kalmiflora
L.
158 Lachneæfolia
159. Lambertia
160. Lanuginosa
161. Lawsonia
162. Leeana
163. Leucanthera
164. Linneana
165. Linneana superba
166. Linnæoides
167. Longiflora
168. Longipedunculata
169. Lucida
170. Lutea
171. Lactiflora
M.
172. Magnifica
173. Mammosa major
174. ———— minor
175. Margaritacea
176. Marifolia
177. Massoni
178. Melanthera
179. Melastoma
180. Metulæflore

181. Modesta
182. Mollissima
183. Monadelpha
184. Monsonia
185. Montana
186. Mucosa
187. Mucronata
188. Multiflora
189. Mundula
190. Muscaria
191. Mutabilis
192. Mirabilis
193. Moschata

N.

194. Nidularia
195. Nigrata
196. Nitida
197. Nivea
198. Nolæflora
199. Nudiflora

O.

200. Obcordata rubra
201. ———— alba
202. Odorata
203. Oblonga
204. Ollula
205. Oppositifolia
406. Ovata
207. Obtusifolia

P.

208. Palustris
209. Paniculata
210. Parmentiana
211. Parviflora
212. Patersonia major
213. ———— minor
214. ———— rubra
215. Patens
216. Pedunculata
217. Pellucida
218. Pendula
219. Persoluta
220. Perspicua
221. ———— nana
222. Perspicuoides
223. Petiolata
224. Peziza
225. Physodes
226. Phylicoides
227. Picta
228. Pilosa
229. Pinifolia
230. ——— elegans
231. Plukenetia
232. Plumosa
233. Præcox
234. Prægnans
235. Præstans
236. Primuloides
237. Princeps
238. Procumbens
239. Propendens
240. Pubescens major
241. ———— minor
242. ———— minima
243. Pulchella
244. Pulverulenta
245. Purialis
246. Purpurea
247. Pyramidalis
248. Pomifera
249. Pinea
250. Petiveriana
251. Pyrolæflora
252. Pinaster

Q.

253. Quadrangularis

R.

254. Radiata
255. Ramentacea
256. Recurvata
257. Reflexa alba
258. ——— rubra
259. Regerminans
260. Retorta
261. Rosea
262. Rostella
263. Rubella
264. Rubens
265. Rugosa
266. Rupestris

S.

267. Sainsburia
268. Sanguinea
269. Sanguinolenta
270. Savillea
271. Scabriuscula
272. Scariosa
273. Schollia
274. Sebana
275. Serratifolia
276. Serrulata
277. Sexfaria
278. Shannonia
279. Smithiana rubra
280. ———— alba
281. Solandra
282. Speciosa
283. Spiralis
284. Spumosa
285. Spuria pallida
286. ——— translucens
287. Squamosa
288. Stellata
289. Struthiolæflora
290 Suaveolens
291. Sulphurea
292. Swainsonia
293. Sessiliflora

S.

294. Taxifolia
295. Templea
296. Tenella
297. Tenuiflora
298. Tetragona
299. Thalictriflora
300. Thunbergii
301. Thymifolia
302. Togata
303. Transparens
304. Triceps
305. Tricolor
306. Trossula
307. Tubiflora
308. Tumida
309. Trigona
310. Tenuicola

U. & V.

311. Umbellata
312. Urceolaris
313. Ventricosa
314. Ventricosa coccinea
315. ———— alba
316. ———— superba
317. ———— erecta
318. ———— nana
319. Venusta
320. Vernix
321. Vernix coccinea
322. Versicolor
323. Verticillata
324. Vestita alba
325. ——— rosea
326. ——— purpurea
327. ——— incarnata
328. ——— coccinea
329. Viridescens
330. Viridiflora
331. Viscaria

W.

332. Walkeria
333. ——— superba

Addenda.

334. Triflora
335. Tubiflora minor
336. Rosea alba
337. Gnaphaloides
338. Splendens
339. Mollis
340. Obbata umbellata
341. Banksia purpurea
342. Foliosa
343. Concolor
344. Lachnea

345. Arborea squamosa
346. Complanata
347. Depressa erecta
348. Flexuosa
349. Setacea
350. Aristata minima

Art. X. *On the Evil Effects of a Head Gardener being lodged any where else than in his Garden.* By a Common Sense reforming Gardener.

Sir,

I have lately purchased your excellent work, the Encyclopedia of Gardening, and also the Gardener's Magazine, both of which are exceedingly useful, more particularly to gardeners at a distance from the metropolis. Indeed such a work as the Magazine has been much wanted of late, and I hope will be well supported by gardeners; and I am happy, Sir, that in the above works you have so well pointed out the moral and religious duties of gardeners, with almost all other acquirements belonging to their profession, to all of which I coincide with you; but permit me, Sir, to enquire whether the gardener in England, placed, as he is, in the housekeeper's room, — I say, whether he can there improve himself? I answer, — all that he can do there, admitting it to be an improvement, is, — he may read a little, play at cards, dance, and flirt with ladies' maids. But in some families of the first rank and respectability, the gardener is, as is the case at present with myself, a servants' hall inmate. Now, I ask again, Sir, as in the former case, in what way a gardener is to improve himself there? Why, if he is hail fellow, well met, with the inmates of this last apartment, his improvements are entirely out of the question; his amusements, or rather, his degradation, is hard at hand, — as drinking, swearing, and low language, is as much to be found in such a place, generally speaking, as in the *ale-house.*

There are many gentlemen, when hiring their gardeners, wish them to sleep in the house, to protect their property in the absence of the family; would it not be much better, where there is extensive gardens, with forcing houses, &c., for the superintendant of such to be placed in or as near to them as possible? But it requires no more than common sense to see the absurdity of any other arrangement than that of a proper house for a head gardener in the garden, where at least extensive forcing of any kind is carried on: for instead of this being an expence, as gentlemen may think it to be, it will be found quite the reverse; for the man who takes delight in gardening will then be on the spot, where his chief business lies, without trusting to unexperienced hands, which is often the case with those placed in such circumstances as above described; and gardeners are often led away by servants and lose their places, more through this than any other circumstance.

Having Sir, intruded thus far on your notice, I hope and trust that you and your numerous correspondents will endeavour to impress on the minds of noblemen and gentlemen the evil effects of placing their gardeners any where else but in their gardens.

I am, Sir, &c.

A Common Sense reforming Gardener.

Feb. 2d, 1826.

ART. XI. *Catalogue of the different Species of Palm cultivated in the Stoves of the Hackney Garden.* Communicated by Messrs. LODDIGES.

Dear Sir,

WE return you our hearty thanks for your valuable Gardener's Magazine, which we assure you has given us a great deal of pleasure. The whole plan has our unqualified approbation; — we consider it to be just such a thing as has been long wanted in this country. The quantity and variety of important matter it contains cannot fail to make it universally acceptable. We are not aware of any thing that could have been better arranged.

Being just now engaged in making out a new catalogue, we enclose you a list of all our palms. They are the most important part of our collection, and as nothing is put down but what really exists here, perhaps you may think it worth inserting in the Magazine; at any rate you have our full consent to make whatever use you please of it.

We remain, Dear Sir,

Yours truly,

C. LODDIGES & SONS.

Hackney,
11th February, 1826.

Palms in the Hackney Garden.

	NATIVE COUNTRY.
Acrocoma aculeata - -	Jamaica.
globosa - -	St. Vincents.
guianensis - -	Demerara.
horrida - -	Trinidad.
minor - -	St. Vincents.
sclerocarpa - -	Brazil.

		NATIVE COUNTRY.
Acrocomia	tenuifrons	Brazil.
Areca	catechu	India.
	crinita	Mauritius.
	exilis	Bourbon.
	manicot	Brazil.
	montana	Grenada.
	oleracea	Jamaica.
	rubra	Bourbon.
	triandra	India.
Astrocaryum	acaule	Brazil.
	murumara	Ditto.
Attalea	compta	Ditto.
	funifera	Ditto.
	rossii	Ditto.
	speciosa	Ditto.
	spectabilis	Ditto.
Bactris	guianensis	Guiana.
	macracantha	Pernambuco.
	major	Trinidad.
Borassus	flabelliformis	India.
Calamus	niger	Ceylon.
	verus	Mauritius and Indian Isles.
Carludovica	angustifolia	St. Vincents and South America.
	jamaicensis	Jamaica.
	latifolia	Grenada and South America.
	palmata	Jamaica.
Caryota	urens	Bengal.
Chamædorea	fragrans	Trinidad and Brazil.
Chamærops	excelsa	Nepal.
	gracilis	South America.
	guianensis	Cayenne.
	humilis	Gibraltar and Barbary.
	hystrix	Florida.
	serrulata	Georgia.
Cocos	flexuosa	Trinidad.
	nucifera	Between the Tropics generally.
	plumosa	Brazil.
Corypha	elata	Bombay.
	glaucescens	Trinidad.
	Taliera	India.
	umbraculifera	Ceylon.
	utan	Indian Islands.
Cycas	circinalis	India.
	glauca	Ditto.
	revoluta	Ditto and China.
	squamosa	India.
Desmoncus	americanus	St. Vincents.
	dubius	Trinidad.
	orthocanthos	Ditto.
	polyacanthos	Brazil.
Diplothemium	campestre	Ditto.
	maritimum	Ditto.
Elais	guineensis	West Africa.
	elanococca	Mauritius.
	pernambucana	Brazil.
Elate	sylvestris	India.
Euterpe	globosa	Mauritius.
	pisifera	Madagascar.

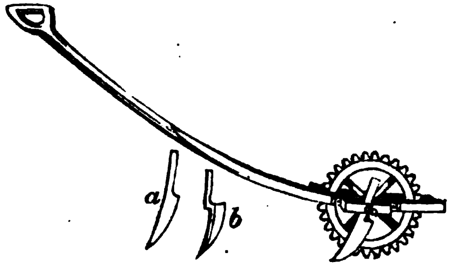
	NATIVE COUNTRY.
Geonoma schottiana	Brazil.
Gomutus saccharifer	Bengal.
Hyphæne cuciphora	Upper Egypt.
Latania borbonica	Bourbon.
glaucophylla	Madagascar.
rubra	Bourbon.
Licuala peltata	India.
spinosa	Ditto.
Lontarus glaucus	Madagascar.
sylvestris	India.
Manicaria saccifer	Trinidad and Brazil.
Mauritia flexuosa	Central America.
Maximiliana regia	Brazil.
Œnocarpus Batana	Ditto.
Phœnix acaulis	Mauritius.
dactylifera	Egypt, Persia, Palestine, &c.
farinifera	Mauritius
leonensis	Sierra Leone.
paludosa	India.
pygmæa	Mauritius.
sylvestris	India.
Rhaphis flabelliformis	China.
Sabal adansoni	Tropics.
blackburniana	Ditto.
graminifolia	South America.
palmetto	Georgia.
umbraculifera	Jamaica.
minor	Florida.
Sagus pedunculata	Gambia.
ruffii	Mauritius.
rumphii	Ambayna.
vinifera	Africa.
Syagrus cocoides	Brazil.
Thrinax argentea	Jamaica.
barbadensis	Barbadoes.
elegans	India.
gracilis	Cayenne.
parviflora	Jamaica.
pumilio	Ditto.
radiata	Trinidad.
Wallichia caryotoides	India.
Zamia cycadifolia	South Africa.
debilis	Florida.
furfuracea	Ditto.
integrifolia fœmina et mas.	Ditto.
lanuginosa	South Africa.
latifolia	Florida and Cuba.
media	Ditto
prunifera	Persia
pumila fœmina et mas.	Florida and Cuba.
pungens	South Africa.
pygmæa	Cuba.
repanda	South Africa.
spinosa	Ditto.
spiralis	New Holland.
tridentata	South Africa.

Art. XII. *On a new Verge Cutter, and Orange Tub,* invented by Mr. Charles Mac Intosh, Gardener to Sir Thomas Baring, Bart. M.P. *and also on a new Mode of preserving Cauliflowers,* by the same, in a Letter to Mr. Mackay, of the Belgrave and Clapton Nurseries.

Dear Sir,

According to promise, I now send you the edging iron (*fig.* 28.) which I have described to you, and which I hope you will

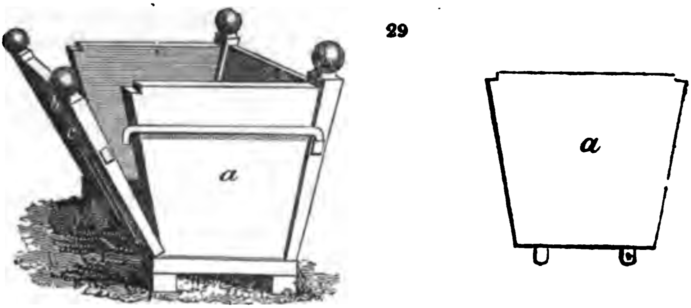
28



find to answer to my description; of course some allowance will be made for the first trial, as men are apt to be prejudiced against new tools; but I can pledge my word, that I will myself (notwithstanding my infirmities) cut as much in one day with this instrument as I could in four, or I may say in five days, with the instrument in general use; any of my men are most willing to do the same. In all cases, excepting when there is a long straight line to be edged, a garden line is unnecesary: where a line must be used it will perhaps be best to place it so that it will run between the wheel and the coulter, or cutting part of the machine (*a*). A certain degree of pressure is necessary upon the handle where the ground is hard, and the kneed coulter (*b*) may be used where the edgings are not very regular. When in use I have them daily sharpened, and the operator takes them out in his pocket in the morning, and when one loses its cutting edge, he takes it off and places on another, and so on.

The model of the orange boxes (*fig.* 29.) I have also sent. I hope you will approve of them; you will observe that they are different from Sir A. Hume's, or those used on the Continent; they are tapered a little, which gives them a lighter appearance than when made square. The advantage that this sort of box has over those in use is, that you can with so little trouble take them to pieces and examine the roots of the trees, remove old, and replace by fresh mould, prune the roots, see whether they are in a proper state, as regards moisture, &c. The last particular I think very material to their health, the sides

29



folding down: you can, as often as may be judged necessary, paint or pitch the inside of the boxes, which will, if properly attended to, make them last, if made of good wood, for twenty years. Another advantage they have over the boxes alluded to is, that you can take the trees out of one box and place them in others without taking them to pieces, which you cannot do with the others, as they are made of strong framed posts so joined together that it is impossible to take out your trees; and besides, only two of their sides are moveable. In taking this box to pieces you have only to pull up the two iron bars, and gently pull out two of the sides (*a*); the remaining sides lift up. I generally fill up all the bottom of the tubs with broken brick, tiles, and turf for draining, so as to be level with the top of the bottom bars.

If you think these two things worth Mr. Loudon's notice, you will particularly oblige me by sending them to him.

I have been able to keep cauliflower for a length of time by cutting them in a dry day, stripping off all the leaves, and then burying them among bog mould. The idea first struck me in Scotland, from considering that bog mould was antiseptic, and capable of resisting putrefaction, particularly if excluded from atmospheric air. I covered some heads of cauliflower in July, under the rubbish taken from the bottom of an old *peat stack*, and in November following, found them still fit for use. I pointed out to your brother some this year at Stratton, that had been laid up six weeks, and still good; this I was, in consequence of the long drought, obliged to do; and for weeks it was sent to table, and found as good as if newly cut: it is necessary to wash them well, as they are very black when taken out.

I am, dear Sir, &c.

CHARLES MAC INTOSH.

Stratton Park,
November 29, 1825.

Art. XIII. *On the Remuneration of Gardeners.* By I. P. Burnard, Esq. of Eden Grove, Holloway.

Dear Sir,

I have taken your first number of the Gardener's Magazine, with which, on the whole, I am tolerably pleased. I did intend to have sent you, as I promised long ago, a plan and specification of a master gardener's house, seed-room, and office; such a one as appears to me suitable for gardeners, from 60 to 100*l.* per annum, exclusive of board wages, &c., and which might be varied for salaries above and below that sum: but yesterday I had occasion to dine with a brother architect, where one of the company related some things respecting the way in which gardeners are remunerated, that quite altered my determination; and I now think that to begin by giving a plan of a house, before first acertaining that the intended occupant is able to make use of it, would be little better than an insult to his feelings.

I respect all industrious men, and would have them all placed in comfortable circumstances; but I particularly respect gardeners, because, as far as my experience goes, there is no class of rural operatives, or masters, whose moral character stands so high, and whose remuneration is so low. If we take a carpenter, bricklayer, mason, or smith, and compare the wages usually paid them through their apprenticeship, and while they are journeymen, with the wages of a gardener during these states of progression; and compare also their intellectual state, the difference between the two classes is almost incredible. A bricklayer who cannot write, and who has not the least knowledge of figures, or geometry, receives from five to seven shillings a-day, as the common price given by master builders. A journeyman gardener in one of the first nurseries, who has gone through a course of practical geometry and land surveying; has a scientific knowledge of Botany, and has spent his days and his nights in reading books connected with his profession, gets no more than two shillings or two and sixpence a day. The Horticultural Society, it is true, very humanely give 14*s.* to 18*s.* per week; but you may recollect, in the spring of 1824, that an Irish lad working in Jenkins's nursery, was summoned before the Mary-la-bonne police magistrates, to provide for an illegitimate child, and being required to allow the mother two or three shillings per week, assigned as a reason why he could not afford it, that his wages were only 10*s.* per week! The magistrate would not believe him; he had but a small plot of a garden, he said, but he paid the gardener who did it up 4*s.* a day: this unfortunate lad, therefore, had the alternative of paying the money, going to prison, or marrying the girl; in the simplicity and goodness of his heart he chose the latter. A woe may be pronounced against the gardener who marries so prematurely; and it would be well, to have written upon the large gates of the Horticultural Society's garden at Chiswick, something like what Dante inscribes on the portal of *hell:*

> " Lasciate ogni *amor* voi che entrate,"

or otherwise establish within them one of those " Botteghe che hanno per frontespizio' — Qui si castrano i Ragazzi *Giardiniere* a buon mercato ! "

With respect to master gardeners, to what class of gentlemen's servants, is there so much confided, and so little paid? Not to mention the general care of the kitchen garden and pleasure ground, it often happens that a gardener has two or three hundred men under his direction for executing improvements. The work of all these men, or their time, he has to measure, or to calculate; and perhaps 60*l.* or 80*l.* a week passes through his hands for their payment; while he has not more than as many pounds a year for himself. Is there not something very extraordinary in this? Would any mercantile man or manufacturer consider it safe to entrust so much power in the hands of a man so ill paid, and consequently so exposed to the temptation of dishonesty? Yet how seldom do we hear of gardeners falling short in their accounts. So rarely does that happen, that I do not recollect of a single instance; this must be attributed to the high moral character of gardeners, which may be traced in part to the recluse way in which they are brought up, and in part to the nature of their profession; even Bailiffs, or as you call them, Agronomes, are more apt to deviate from the moral principle than gardeners; probably from the influence of attending markets, to which, it may be said, every person going as a buyer or seller, goes with an intention to deceive, more or less, the person he may have to deal with.

However, I am deviating from my purpose, and, I fear, weakening the force of what I have to say. It is briefly this; one of the richest if not the very richest nobleman in England, has just parted with his gardener upon the subject of wages. This gardener, it was stated where I dined, is among the most intelligent of those of your country; he went to the situation about seven years ago; and besides doing the common routine of a nobleman's gardens, he laid out an immense park and pleasure ground, from his own designs; and that in such a way as to give universal satisfaction. The place, in short, is talked of, and we all know how proud Mr. P. is of the share he had in the architecture of the house. The gardener went there on wages which he felt to be low; but which he trusted would be raised as he displayed his talents. With the most honourable feelings he declined asking for an advance while the great works he had in hand were going on, least it might be considered as a sort of threat to leave in the midst of them; but when the whole was completed, he then respectfully represented to his employer that he found great difficulty in supporting himself, his wife, and three children on forty pounds a year, and eleven shillings a week board wages, for he had no perquisites, not even milk or a pig. The magnificent and generous nobleman, not more rich than pious, after several weeks' consideration offered an addition of 12*l.* a year. Such is the liberality of a man who is said to have upwards of 100,000*l.* a-year. I make no reflections on the subject, but I think it is a fit case to be recorded in the Gardener's Magazine for the benefit of its practical readers. Had this gardener not been an honourable minded man, and enthusiastic in his profession, he never would have gone on for so many years with such extensive works, and with so paltry a remuneration. But he was wrapped up in the plans he was executing, and fancied that while erecting a column to his own fame as a gardener, he was also laying the surest foundation for an increase of salary, and, in short, for rendering his situation comfortable and permanent. At the moment, however, when he thought of beginning to reap the fruits of his labours, he was politely swept away from the place where he had spent his best years, and made his greatest exertions; and the small increase of salary that was denied him was more than included in the wages of his successor. Had this gardener not been an honest man, he might, out of the thousands a year that passed through his hands, in the multifarious payments of from 250 to 300 men weekly, easily have helped himself. Is not such treatment enough to tempt men to dishonesty? and is it not astonishing that gentlemen, when they hire servants, do not take these things into account in adjusting their remuneration? In a word, there is no class of servants so ill paid as gardeners, and none, who from their general good conduct, and the long study and attention required to excel in their profession, deserve to be so well paid. But I am confounding general views with the relation of a particular case, and shall, therefore, conclude for the present, by expressing a hope, that this case will teach them — never to trust to the gratitude or generosity of their employers for that which they are entitled to receive from them as matter of right. But you shall hear from me again on this subject before I send you any plans of gardener's houses.

Yours, very truly,
I. P. BURNARD.

Formosa Cottage, Holloway,
10th February, 1826.

ART. XIV. *On the Beurré Spence and other new Pears, and on the art of keeping Fruit.* By W. BRADDICK, Esq. F.H.S. of Boughton Mount, Kent.

Dear Sir,

IN the account of new pears planted by me on Coxheath, as published by you in the first number of the Gardener's Magazine, there is an omission of the word Spence, after the word Beurré. As it cost me much trouble to obtain possession of a bud of this fine pear, I feel desirous that this omission should not go uncorrected, in order that the pear may be more generally known: the more especially as it has ripened well on espalier and standard trees, both in Surrey and Kent, which inclines me to think that it will prove a valuable acquisition to our fruit growers. Its history is as follows: — About seven or eight years ago, when I was just going to undertake my annual journey to the Continent, for the purpose of collecting buds of new fruits, my much esteemed and valued friend, Roger Wilbraham, Esq., happened to call on me; in the course of conversation we spoke of the advantages which posterity would derive from the labours of those horticulturists of the present day, who are now employed in raising new fruits, through the knowledge which is pretty generally disseminated of the sexual intercourse of plants. Mr. Wilbraham said, that it would be advantageous to discard all the bad, and to make a judicious selection of a moderate number of good table fruits; the time, labour, trouble, difficulty, and expence which would attend the bringing this matter about, owing to the many thousands of new fruits yearly coming forward, was then spoken of, as it is supposed that not more than two or three per cent. of any number of new fruits raised from seed, turn out to be superior in goodness to the parents from whence the seed is derived. Mr. Wilbraham then suggested to me that I should ask such amateurs of new fruits as I might visit during my intended journey, which of all the fruits raised by each individual were esteemed the best, and confine my collection to sorts preferred. Upon my afterwards putting this question to M. Von Mans, professor of chemistry, agriculture, and rural œconomy, at the University of Louvain, who had raised 80,000 new pears, he very laconically replied, "Monsieur Braddick, that depends on taste;" offering me at the same time, with a grace peculiar to our continental neighbours, a pinch of snuff out of an elegant box, which he said was presented to him by the king of Würtemberg, for a new pear which he had raised, and named la Roi de Würtemberg, on account of that king's liking it. I then asked him, if his own taste was called upon to decide the question, to which of all his new pears he would give the preference; he immediately replied, with much vivacity, "The Beurré Spence," and added, "this fruit, to my taste, is inestimable, and has no competitor."

I obtained from the learned professor a letter addressed to his gardener; he at the same time gave me leave to take buds out of his garden, which was fourteen miles from Louvain; upon my presenting M. V. M.'s letter to his gardener, a Walloon, I found great difficulty in making him understand me; he, however, readily gave me buds; but, as it appeared two years after, upon my fruiting those buds in England, the pear which he named Beurré Spence turned out to be the Gros Dillan, another new pear, very fine, and very large, fit for an espalier. Upon discovering that I had not yet got possession of the Beurré Spence, I went to Louvain again, and at length succeeded in establishing that pear in England. As soon as I fruited it, I sent specimens of the fruit, with a great many other new pears, to the Horticultural Society. Mr. Turner, the under secretary, pronounced it to be the very best of all the new Flemish pears yet raised; to which I have to add, that I accord with professor Van Mons and Mr. Turner, in my opinion of its merits, it being in my estimation the very best table fruit that we at present possess, for its season, which is from the middle of October to the middle of November. I gave buds or grafts of this pear to Mr. Young, Mr. Gibbs, Mr. Kirk, Mr. Ronalds, Mr. Curtis, Mr. Masters, Mr. Knevett, and many other nurserymen and gardeners, of whom I presume plants by this time may be had.

As I do not like to send you a barren letter, I herewith forward you specimens of two other new pears, which have heretofore been exhibited by me at a meeting of the Horticulture Society.

Beurré Pentacost. (Good. *Cond.*)

Poire d'Ananas. This pear is nearly allied in appearance and flavour to the Present de Malines, and Passe Colmar. The two pears now sent grew against a west wall, in my garden at Thames Ditton, in Surrey. (Excellent. *Cond.*)

I have kept back those pears as long as I conveniently could, in order to try the keeping quality of the fruit against the Poire d'Auch, heretofore our best keeping pear. A specimen of this last I send, that you may compare them together. It is scarcely treating these pears with fair play, to tumble them about before tasting, at this season of the year, as such usage is almost certain of deteriorating their flavour, by bringing on fermentation into their juice, which will render them mealy. To keep fruits well, they should be preserved in an equal dry temperature, under the fermenting point, from whence they should only be brought just at the time of using. This my experience teaches, and acting upon this principle, I have prepared the fruit room in my new habitation, for my choice keeping fruit, thirty-two feet under the surface of the earth, in the solid dry rock; the foundation being laid thirty-three feet and a half above the level of the spring in the well, a few yards off. The stone which was quarried out of these three stories of cellars, was all used in the building, and cost less than an equivalent of bricks at fifteen shillings per thousand.

Respectfully, I am,
Dear Sir, &c.
JOHN BRADDICK.

Boughton Mount,
March 1. 1826.

ART. XV. *Remarks on the Constitution and Administration of the* London *Horticultural Society.* By a Fellow of the Society.

Sir,

I CONGRATULATE you very sincerely on the undertaking a Gardener's Magazine, which, if conducted with common care, and some spice of impartiality, will be as amusing as instructing to amateur gardeners like myself. I am not given to authorship, and have some hesitation in putting pen to paper, when I consider that it is to be printed; but the fact is, you have won my heart by the remark in your first number, on the laying out of the garden of the Horticultural Society of Chiswick; if the term "laying out" may, with any thing like decent propriety, be applied to such an arrangement of straight walks and kidney-shaped clumps, as are displayed in this garden of the richest and most highly patronized society in England. I have a deal to say on the subject of the society, and I hope that I shall have the good fortune from time to time to be permitted to occupy a spare page or two in your Magazine. The society has done and will do much good; but, like most of these companies and societies it has the seeds of its own corruption within it — "there is something rotten in the state of Denmark." I trust that notwithstanding you are a member, you will hear both sides, and freely admit the remarks of each.

The greatest benefit and the greatest evil to the concern is the secretary; benefit, because he is indefatigable in the establishment and management; his whole time, care, and attention is devoted to the furtherance of it; but then comes the evil — the society receives the benefit of his care, time, and attention for nothing — and this to me is a great evil. Shall we not fall into the same error as other societies who have been patronized by honorary secretaries? Is not the society accepting too much? Seeing how rich it is, would it not be much wiser if all its officers, except those whose services are professedly of an honorary nature, were paid? The objection to the contrary is, that when this is not done, the individual has claims on it, which, from being undefined, are always dangerous. How can the different members with any grace gainsay the wishes of one who has done so much for them? How can the distribution of this patronage, or the donation of that packet of seeds, or that plant, be denied to him who has been such a benefactor? As far as I am convinced, and as my knowledge goes, I should say, that though Mr. Knight was the king, the secretary must, to all who dabble in the arrangement of the interior, be considered as the "viceroy over him." Is he not omnipotent in the council — in the committee of drawings — in the garden committee — and in short, in every thing? Suppose him to give offence to any member, to whom is that member to complain? Will the council venture to decide against the secretary?

Now you must not fancy for a moment that I am disinclined towards our secretary, or the society, — far from it. I only mention these things for the benefit of the former, and the well being of the latter. At present it is going on swimmingly. Government, it is said, has, or is about to bestow, a large sum of money for the furtherance of its objects; and, as this is the case, the concern *belongs* to the public in some measure; and as such, all difficulty or delicacy as to observation is removed. It has been a matter of as much surprise as regret to find, that with such a vast annual subscription — and a subscription of some thousands of pounds for the garden, it has been thought necessary to go a begging to the government: let that, however, pass; but if the money is got, at all events let us see how it is spent.

I shall not overwhelm you with too much at once; but think you will agree with me that a great deal has been spent in objects which are not quite within the spirit of the meaning of the charter; or, what is of more consequence, the meaning or wishes of the subscribers. I think it certainly never was intended to form in the garden a botanical collection. And is there any occasion for it when we have Kew and the Linnæan Society? As for the introduction of new and beautiful flowers, that is quite consistent with the original foundation; but that a large part of the funds should be applied in sending collectors to all parts of the globe, to Canton, Columbia, the Cape, &c. I think it quite beside what the original founders meant.

There is another very questionable point. I am an original subscriber. Well, it has been determined to establish a garden on a larger scale than the first, and a particular subscription for it was set on foot. This was not done at a General Meeting, I believe; at least I, as a subscriber, was no party to this, as far as I know. To those who subscribe to the gardens there are particular privileges attached; they may have plants on application. They give tickets to view the garden to their friends; in fact, they are a "privileged class," and I, an old subscriber, am turned into the lower orders, and am no longer a member of the society; and I must either do what my circumstances do not conveniently admit of, or I must remain in my degraded state. It is true, I continue to have the right of going to the garden myself; but when a friend asks me for a ticket, I am obliged to confess I cannot give one. Why not? is the answer; Mr. So and So has as many as he likes. There I am driven up into a corner, and obliged to confess that I am only one of the poor members, and cannot assist him. The same as to the distributions.

In short, the London Horticultural Society has ceased to be conducted on liberal principles for the benefit of horticulture; and its main efforts are directed to its own agrandizement; in some respects to the positive injury of horticulturists, by paralysing the efforts of individuals. Whether this will go on, or whether the energies of some individuals will lead to a general reformation of the system of management, it is impossible to foresee. But this much I think, you and most of the practical gardeners in the neighbourhood of London, who are fellows, will agree in, that a reformation is highly necessary.

I am, Sir, &c.

A Fellow of the Society.

Note by the Conductor. — The author of the foregoing paper will excuse us for having omitted so much of what he had written. We should not have inserted his letter at all, had it been the only one received on the subject; but as there seems among many practical gardeners in the neighbourhood of London a spirit of dissatisfaction with the society, whether well or ill grounded we do not pretend to say, we consider it our duty to attend to it; more particularly as it is practical gardeners who are the chief readers of this Magazine. Discussion on the subject can never do harm, and may do good. We perfectly agree with the writer on the subject of an unpaid secretary; but we question much, if any secretary, however well paid, would have raised the society to the same degree of eminence that has been done by the present one. It is only just, therefore, that he ought to be gratified, in return, with as great a share of power as is consistent with the dignity and safety of the society. To the friends of horticulture, the most interesting point is, the question whether, according to their present plan and proceedings, this society will be able to get income sufficient to go on with for many years. A plan, we think, should have been adopted, which would not have involved so great an annual expence. No society, in our opinion, should interfere with any thing that can be very well or better done by individuals; and on this principle, if that in question were to limit itself to absolute utility, its business would be very simple, and not very expensive. In the first place, there would be no occasion for an extensive garden; for we feel well assured that the only real good to be done by this part of the establishment, is to bring together all the varieties of fruits and culinary vegetables now scattered over the country, and form complete descriptive catalogues of them. A few acres enclosed by a good wall, and a vinery of 150 feet in length, would have been more than sufficient for this purpose. There is not another point in the whole circle of gardening that would not have been much better done by individuals than by this or any society whatever. For example, to procure plants and fruits from abroad — offer handsome premiums for them. To propagate and disseminate them when received — give them to the nurserymen. To ascertain any point by experiment — state the desideratum, and the reward you will give for the best account of the result — trials will be made by several, and instead of one result you will have a dozen. No experimental discovery of much importance was ever made by any society. The great strength of a country, whether politically or scientifically, is founded on the energies of the individuals who compose it, and, therefore, any measure which has a tendency to repress individual energy, and induce a reliance on others, is injurious. Of this nature is all monopoly, and we think the horticultural society attempt too much in this way; from the one extreme of sending out botanical collectors to every part of the world, to the other of supplying gentlemen with practical gardeners. We consider the latter point, indeed, as so utterly at variance with the dignity of the society, that we are astonished it should be persisted in. An institution with "His sacred Majesty" as a patron, and emperors and kings as members, to keep an office for servants! And while all this is being attended to, the gardening comforts of the laboring classes is totally neglected. (*See* Art. I. p. 101.)

But we would not confine a grand, central, horticultural society, like that of London, to bare utility; we would wish it to have a splendid garden as an additional ornament to the metropolis, and a first-rate specimen of the art of gardening. This, once done, could be kept up at such an annual expence as it might reasonably be expected would be raised by the ordinary income of the society; but independently altogether of utility or splendour we think it very questionable if the present system of embracing so many objects both at home and abroad, can be continued for many years longer.

ART. XVI. *Abridgments of Communications which want of room precludes our inserting at length.*

THE authors of the following papers are requested to excuse the Conductor for the liberty he has taken in presenting their communications in an abridged state. There is not one of them that would not have done credit to its writer and to the magazine if printed at length; and some of them were actually put in type for that purpose; but want of room and the disadvantages of delay have compelled us to follow this course.

1. *On the Cultivation of Gourds and Pompions.* By Mr. HENRY GRAY, Gardener, Camberwell. Dated December 12th, 1825.

MR. GRAY's employer had lived a good deal in the West Indies, and there acquired a taste for using the different varieties of edible gourds, as a substitute for our common culinary vegetables. Mr. Gray plants in the paths between asparagus beds, and lets the vines run over them; and he considers that their large leaves do good to the asparagus roots by protecting them from the sun, while the tall stems of the asparagus afford a shelter to the leaves of the gourds. Last summer's extraordinary drought, had burned up, on his gravelly soil, the cabbages, peas, turnips, &c. by the beginning of August, and had he not been provided with gourds as a substitute, the family must have had recourse to market. The servants disliked them at first, but soon came to like them better than summer cabbage. He therefore recommends, especially where the soil is liable to be burnt up in summer, planting the vegetable marrow and other Cucurbitaceæ as a reserve crop.

Note.—To the above we may add, that the tender tops of all the edible species of cucurbitaceæ, boiled as greens or spinage, are a fully more delicate vegetable than the fruit. It must be worth something to gardeners and cooks to know that either, or both, may be used for this purpose, when scarcely any thing else can be got.

2. *On the Cultivation of the English and American Cranberry and the Water-cress, at Bretton Hall.* By Mr. CHRISTIE-DUFF, late Gardener there. Dated December 20th, 1825.

THE beds are made across a bank which slopes to the south, and the plants, instead of being shaded, as is generally recommended for those planted in gardens, are fully exposed to the summer's sun. The advantages to the fruit are obvious. The beds are six feet wide with two-feet trenches between them, through which passes a stream of running water. The sloping situation renders it necessary to run a small line of puddle along the lower edges of each bed, as high as the surface of the peat, to prevent the escape of the water. By this, and other obvious arrangements, the water circulates from trench to trench, entering at the top and passing off at the bottom of the declivity. Very sandy peat is used. In winter the water is kept low, but in summer it is raised as high as the surface of the beds, and so as occasionally to flood them. Abundance of water Mr. Duff considers as essentially necessary to the success of this plan.

The cresses, it will be easily conceived, are grown in the trenches among the running water; a little sand being laid along them to promote their rooting. The sub-soil of the whole bank devoted to this mode of culture is a retentive clay.

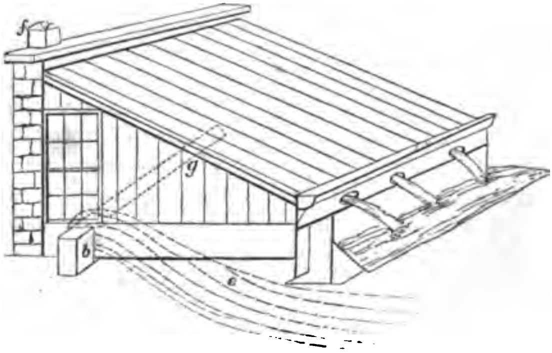
3. *On the Management of newly-imported Orange and Lemon trees.* By Mr. William Moore, Gardener at East Ham, Surrey. Dated Jan. 25th.

The trees, as soon as received, were immersed half way up their stems in water about 64° for twelve hours. They were then potted, their stems wrapped round with soft hay-bands, from the root to the bud; the shoots from these buds cut down to three eyes; and finally the pots plunged into a bed of nearly spent dung, made up in the vinery. They were regularly watered morning and evening, and the hay-bands well moistened every time; the water used was of 65°, the temperature of the house. In ten days they all began to push vigorously; excepting one plant, which was neither steeped in water, nor wrapped round with hay-bands, and which remained a month quite inactive, while the others had produced shoots from four to eight inches long. Heat and proportionate moisture, Mr. Moore concludes, are the grand agents of vegetation.

4. *An Account of an Experiment, which serves to show that Hot-house Flues may draw very well without terminating in an upright Shaft or Chimney.* By Mr. Matthias Saul, of Lancaster, Inventor of Saul's Fruit-gatherer (*Encyc. of Gard.* § 1347.) and other Machines. Dated Feb. 7th.

Mr. Saul's green-house flue always had the worst draught in frosty weather, apparently from some defect in the upright chimney. As an experiment, he made an opening into the flue, and made a wood flue sixteen inches long (*fig* 30. *b*). "I found," he says, "the smoke came out with great force and ran along the ground (*e*), and none came out at the chimney (*f*). I then supposed my chimney (*f*) must be too small.

30



I therefore made a wooden flue, to fix on the sixteen-inch piece, when it completely stopped the smoke. I then fixed it in a sloping direction (*g*), when a little smoke came out; I then took it completely away, as I was convinced the sixteen-inch flue answered the best. I have made a stop to put on the sixteen-inch flue, as the chimney draws well when it is not frosty weather, and no smoke in the least comes out at the tube (*b*) when it is not frost."

5 *On the Winter Management of Bees, by a Clergyman, in Morayshire.* Communicated by Miss ANN DINGWALL. Dated Feb. 9th.

IN a severe winter, bees are for the most part asleep, and do not eat much of their honey; in a mild winter they are in motion, and eating, and have not an opportunity of renovating their stores from flowers. Keeping these facts in view, and the winters in Morayshire being remarkable for mildness, Miss Dingwall's friend put his bees to rest in the month of October, by burying them in a peat-stack; and did not restore them to motion till the willows were in blossom, in the following April. The success was most complete, and the practice worthy of imitation in other districts, by placing the hives in cold dark cellars, or ice-houses.

6. *Historical Notice of two Varieties of the Garden Pea.* By Mr. T. H. MASTERS, Eden Nursery, Stoke Newington. Dated Feb. 25.

MASTER's *Imperial Marrow Pea* was raised a few years since by Mr. W. Masters, seedsman, Canterbury. Among some green marrow-fat peas which he was saving for seed, he observed one or two very different from the rest, which were carefully preserved, and they have proved a valuable addition to our list of peas; they are hardy, and grow about five feet high; their size, dark green colour, and richness of flavour, will always recommend them at table.

The *Dwarf Knight's Marrow Pea* was raised by a gentleman's gardener, in the vicinity of Sittingbourne, Kent, and is a newer variety than the preceding one. This pea attains nearly the same height as the Blue Prussian Pea, but never higher; — in all other respects, even to the shrivelly appearance of the seed, it resembles the very excellent pea raised by the ~~indefatigable~~ President of the Horticultural Society.

7. *On the Cultivation of Pear Trees for Perry.* By RUSTICUS, of Kent. Dated Feb. 25th.

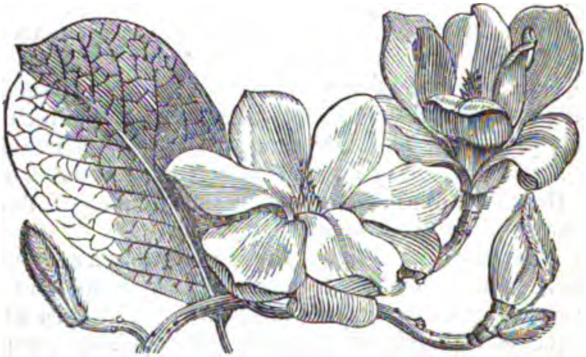
RUSTICUS observes, that in many orchards, containing apple and pear trees, the apples will be found cankered and unhealthy, while the pears are sound and vigorous. The pear, he says, is naturally less capricious than the apple, both in regard to soil and situation. For this reason, he suggests, that pear trees, especially those kinds whose fruit is adapted for perry, should be more frequently planted than at present. In every orchard he would have both apples and pears, in such quantities as to admit of making the fruit into cider or perry; and as the pear crop often succeeds when the apple crop fails, when cider could not be made, perry might be had.

8. *Remarkable Specimens of Pœonia Papaveracea, Madras Citron, and Magnolia Conspicua, in the Gardens of Wormleybury, in Hertfordshire.* Communicated by Sir Abraham Hume, Bart. F. R. S. H. S. &c. the Proprietor. Dated March 18.

Pœonia Papaveracea is in a house 16 feet long, 10 feet wide, and 8 feet high, and is *entirely* filled with the plant, so that its circumference may be estimated at 39 feet; and it would be still larger if the tree had sufficient space. There are on it at this time 630 buds.

The Madras Citron is 21 feet in height, and 15 feet in width, trained on the wall and partly on the glass roof of the conservatory. It bore last year between three and four dozen of fruit, some of which weighed above five pounds.

31



Magnolia Conspicua (*fig.* 31.) is 20 feet in height, and spreads 20 feet on the wall, and 5 feet above it. It requires no protection, and produced a year or two ago above 900 flowers; this year 730 are coming out.

PART II.

REVIEWS.

Art. I. *Systematic Botany.*

Caroli Linnæi Systema Vegetabilium, editio decima-sexta curante Curtio Sprengel. Vols. 1. & 2. *Gottingæ,* 1825, 8vo.

The physical sciences are generally supposed to depend almost entirely upon the powers of human observation for their perfection and final developement; and it was formerly admitted as an incontrovertible axiom, that philosophical induction or metaphysical classification had little or no effect upon the actual amount of ascertained facts, or, which is the same thing, upon the elements of science. It has been a common belief that the classification of natural objects had no other end than that of forming a sort of index to the science of natural history, and that systems bore the same relation to sciences as alphabets to languages. With regard to botany, the description of a plant, with a detail of its qualities in medicine or art, actual or supposed, was the utmost which was attempted by the most celebrated writers, and it certainly was never by such persons for a moment supposed that an acquaintance with the mutual relations and affinities of the vegetable kingdom, would in any degree influence the discovery of new objects. But the experience of modern times has shown that directly the reverse of this opinion is consonant with facts, and that so long as the mind remained occupied in no other manner than in the acquisition of new plants, without knowing in what way to appreciate their respective peculiarities, discoveries continued to be made slowly, and to be of little value when made. As soon, however, as botanists arrived at the art of arranging, upon philosophical principles, the materials which they possessed, their attention was strongly directed towards supporting their respective systems by the addition of new objects and of new facts.

Their minds were excited by the hope of undiscovered forms, enabling them to fill up chasms which, they could not fail to perceive, existed in the most perfect methods known to them; and the strenuous investigations instituted on this account, naturally brought them acquainted with an abundance of subjects, the existence of which the imperfection of their previous knowledge could not have led them to suspect. Thus we perceive, that during the space of more than 5,500 years, from the creation of the world, to the time of Cæsalpinus, a period during the greater part of which botany was an humble art, necessarily, from its intimate connection with the wants of mankind, the study of physicians, the whole number of recorded plants of all descriptions scarcely equalled the quantity now produced, under the auspices of science, by the investigations of a twelvemonth. This will be placed in a stronger point of view, by a glance at the history of botany up to the appearance of the work which stands at the head of this article.

In the early ages of the world, the science which is now called botany, consisted of a collection of names, and exceedingly imperfect descriptions of plants, either entirely unarranged, or combined according to their supposed qualities in medicine, or in human economy. The first race of botanists were, therefore, physicians, or mere simplers, who cared for no classification beyond that which enabled them to arrive at a knowledge of the powers and effects of the few herbs which were imported for pharmacy, or which grew in their vicinity. Even after the revival of learning in Europe, the same ideas were entertained, and a proportionate progress was made in the acquisition of knowledge. The second race of botanists, or those who existed after the dark ages of Europe had passed away, were the commentators upon the writings of the first race; men of some learning, indeed, but in the deepest ignorance of the subject they undertook to illustrate;—monks, whose practical knowledge extended not beyond the walls of their monastery, and who depended for all the information they found necessary to their purposes upon the assistance they could derive from the few copies of the Arabian physicians which their own or their monastic libraries might chance to possess. Science, in the hands of such men, would, it may be easily believed, retrograde rather than make advances towards improvement. So that up to the time of Vincentius Bellovacensis, who has been called the Pliny of the middle ages, and whose *Speculum Quadripartitum* was published in 1494, the second volume of which is devoted to the subject of Natural History, it may be safely affirmed that no progress whatever in modern times had been made in botany; the whole of this author's materials having been borrowed from Aristotle, Dioscorides, Isidorus Macer, Pliny, Avicenna, Platearius Actor, and Cassius Felix, an obscure writer, whose works are lost. But the practical ignorance of the nonks was not the only evil which impeded the advance of physical knowledge. They were in many instances deplorably unlearned in the languages from which they borrowed their opinions. With Arabic, the only source to them of new ideas, they were in most instances imperfectly acquainted; and the degree of knowledge which they possessed, even in the Greek language, was so low, that they were led into the commission of continual errors, even in translating the fables of classical writers into the dreams of themselves. Another, and a more serious consequence than the decline of science, was the result of this deplorable state of botanical learning, which, as a modern writer has justly observed, was so desperate, that it is not more surprising that it should ever have arrived at such a condition than that it should ever have been extricated from it. By a frequent misinterpretation of the Arabic writers it not unfrequently came to pass that properties were ascribed to plants which were directly the reverse of those which the original authors attributed to them; a curious instance of which occurred with respect to the cinnamon. This was for a long time considered a deadly poison, in consequence of Nicolaus Myrepsicus, a Greek physician who flourished in the thirteenth century, having translated *Dar-sini*, the name given to the cinnamon by the Arabians, by the word *ἀϱσένικον*.

The time, however, arrived, when some truly learned men undertook the exposition, not only of the blunders of their contemporaries, but of the ignorance of those original authors in whom a blind confidence had for so many ages been reposed. The bold attack of Hermolaus Barbarus upon Pliny, and of Nicolaus Leonicenus upon Serapio, and the Arabian writers, the one published at the end of the fifteenth century, the latter at the commencement of the sixteenth, put an end to the delusion under which the world had laboured for so long a time. These men fearlessly tore the mask from before the face of the impostors of their day, and boldly succeeded in convincing the world that the ignorance of antiquity had been mistaken for the experience of ages; and a new impulse was given to the pursuits of naturalists, not only by these writers, but also by the declaration of *Collenuti*, an earnest defender, indeed, of the originality of Pliny, that "*non satis esse ad herbariam perdiscendam tradendamque, herbarios scriptores legere, plantarum videre picturas, Græca vocabula* *inspicere, magistri unius verbis addictum esse, sed rusticos montanosque homines interrogare oportere.*"

At this period a new era in botany may be said to have commenced. The trammels of the schools were shaken off, and men began to consult their own understandings, and to trust to their own experience, and to the previously unopened volume of nature for the materials of science. Accordingly we find, from Otho Brunfels, who died in 1534, down to Cæsalpinus, the earliest botanist who introduced a systematic arrangement into his writings, and who died in 1602, a long succession of authors who may be generally called original, and whose labours had been gradually adding to the number of known plants, in such a degree that the summary of their discoveries, as we find them recorded in the History of Plants compiled by the Bauhins, and published in 1623, cannot be estimated at a lower number than 5000; of which more than 600 were then for the first time described; a very considerable number if compared with the slow progress which botany had made up to that time.

At even this date, however, it is scarcely possible to consider botany to have attained the rank of a science; and it was not till after the splendid labours of Morison and Ray that it finally assumed, in the elegant Institutes of the indefatigable Tournefort, published at Paris, in three volumes quarto, in 1770, that rank which it now holds among the sciences. This work, compiled with great care, and adapted to the system peculiar to its author, must be considered the first *Species Plantarum;* and from the perfect manner in which it was executed, affords distinct evidence of the number of plants known to botanists at the end of the seventeeth century. The plants noticed in this work amount, the corallines being excluded, upon a careful calculation, to about 8800. But Tournefort, who was little solicitous for the distinctions of species, having admitted a vast number of double flowers and slight varieties into his list, it is necessary to make a considerable deduction from the whole amount of his names on that account, in order to obtain a just view of the number of species known in his day, as compared with what are esteemed species by modern botanists. The number thus to be deducted may be estimated at one-third; so that the species really known to Tournefort appear to have been some where about 6000, including both phænogamous and cryptogamous vegetation.

Now let us trace the progress by which this stock of knowledge was acquired, and see how far our position is supported up to the end of the seventeenth century. In the Holy Bible it has been ascertained, from the investigations of Sprengel, that there are 71 plants noticed by name, which generally are such only as were applicable to the purposes of man; and viewed in this light, the number, as compared with those known to the early heathen writers, is far from inconsiderable. The Homeric Flora amounts to less than 30 species; that of Hippocrates, in the year of the world 3630, to 274 species; and of Theophrastus, who is supposed to have flourished about the same time, to something less than 500 species. Dioscorides, who, it is most probable, lived in the time of Cleopatra, more than 300 years later than Theophrastus, notices 600 plants; and finally, Pliny, in the seventy-fourth year of the Christian era, compiled, from an examination of more than two thousand volumes of Greek and Roman writers, an account of nearly 1000 species, the result of the investigations of more than forty centuries. In the succeeding fourteen hundred years, we have already seen that the progress of botany was so slow, that if an increase of 500 species is allowed to have taken place during that long period, it is as many as can be possibly made out to have been discovered. But the two next centuries, when the knowledge of plants was assuming a scientific form, produced, after making every allowance for repetitions and spurious species, upwards of 4500 new plants, a number more than three times greater than had been ascertained in all the ages of the world before.

But if we find this opinion confirmed by the experience of the ages anterior to Tournefort, how much more strongly is it supported by the evidence of modern times. In the first edition of the *Species Plantarum*, published fifty-three years later than the first edition of Tournefort's Institutes, the number of species amounts to 7300, and so extraordinary was the advance of botany under the auspices of Linnæus, that in a few years more it was found that 1500 plants could be added to the list. Pulteney, indeed, makes only 7800 in all; but in this he must be mistaken.

The number, however, of species described by Linnæus, even in his latest work, is by no means to be taken as the standard by which the actual state of knowledge at his time is to be measured. It is well known that his notions respecting species were peculiar to himself, and it must also be supposed that the difficulty of adapting the half-described species of his predecessors to his system, operated with him in some degree in inducing him to neglect their labours, in cases in which his own knowledge did not chance to be such as confirmed their opinions and descriptions. For this reason he often omitted the discoveries of Tournefort, whom he also viewed, and with justice, as his most powerful rival. But the most remarkable instance of his oversight is to be found in the lower orders of vegetables; an obvious example of which is afforded by Fungi, of which he notices in the most perfect of his works only 93 species, at a time when Micheli had described nearly 800 species of Agaricus, or at least of Pileate Fungi, peculiar to Italy alone. For this reason, it follows that a just criterion of the number of plants known in the days of Linnæus can by no means be formed from consulting that writer's works alone; if, on the contrary, we take into account his omissions, and deduct from the Institutes of Tournefort one third for garden varieties which are improperly ranked as species in that work, we shall be justified in fixing the number of species actually described in works of botany at the time of Linnæus's death, in the year 1778, at the following numbers:

	Species
Described in the second edition of the Species Plantarum and the Mantissas	8800
——— in the Institutes of Tournefort (not noticed by Linnæus)	1000
——— in Micheli, and other authors upon cryptogamous plants (not noticed by Linnæus)	1000
——— in the works of Hernandez, Piso, Morison, Ray, Bauhin, &c. being either not taken up or confounded with others by Linnæus	800

making the whole number of plants, of all kinds, actually described at that time, amount to 11,600 or in round numbers to 12,000 species.

From the time of Linnæus to the present moment the advance of botany has been so prodigious, that the number of species of plants of all denominations now known cannot be estimated at a sum short of 100,000. The elegance, and the classical form bestowed upon the science by the labours of the learned Swede, and by the more philosophical principles of Jussieu, and of the French school of botany, have given to the study of the vegetable world that rank among the sciences which its actual importance demands. Princes and potentates have become its patrons, and nobles its professors; vast sums have been expended in its support by the governments of Spain, of France, of the various German States, of Denmark, and of Russia; and in Great Britain the private munificence of individuals has amply compensated for the indifference of the government. The advantages arising from such powerful aid have not disappointed the expectations entertained from them; and the rapid progress of the science towards perfection has amply justified the patronage it has received.

Having premised thus much, we now come to a consideration of the work before us. Professor Sprengel has long been known as a botanist, more deeply learned in the literature of the science than any person living. His Historia Rei Herbariæ, one of the most useful and excellent works the world ever saw, has proved him to be an accomplished scholar and judicious critic. Indeed, the learning and acumen displayed in that curious production, have rarely been equalled in any branch of literature. It is owing, perhaps, to this particular direction of his studies, that Professor Sprengel's reputation as a philosophical botanist has not kept pace with his celebrity as a scholar. While the work to which we have alluded, and some similar subjects of antiquarian research have given him a claim to the very highest place in the class of critical botanists, it cannot be concealed that his Introduction to Botany, and to the Study of Cryptogamous Plants, have hitherto fixed him in a much lower rank among practical and philosophical botanists; a rank from which neither his labours upon Umbelliferæ, nor the work under consideration, are, we feel bound to say, calculated to elevate him.

We are fully sensible how important are any attempts to extricate botany from the disorder by which it is now embarrassed, and we admit, most willingly, that the world is obliged by almost any attempts to bring the contents of the innumerable botanical works which have appeared within the last fifteen years into one view. Even the abortion of Römer and Schultes was in some degree useful; and the unpretending nomenclature of Dr. Steudel is of the utmost value; but when we place the work of Professor Sprengel by the side of De Candolle's Prodromus, the difference is too striking to allow us to overlook it.

The difficulties of any undertaking of the kind have now, however, become so great, that the utmost indulgence must be shown to any work possessing one half only of the merits of Professor Sprengel's. It is, indeed, delightful to see a man, fast hastening into the vale of years, and upon whose head the suns of more than sixty summers have already shone, boldly undertaking a labour which appears too mighty to be accomplished in the longest life.

(*To be continued.*)

Art. II. *Gardening and Indigenous Botany.*

It was our intention in this number to have commenced a regular analysis of the different works enumerated in our former article of this title; with the addition of Dr. Greville's work, before inadvertently omitted. But we were then in hopes that our Hortus Britannicus would have been published before this time. This not being the case, the delay affords us the opportunity of including in the Hortus all the species in the hitherto published numbers of the periodical works alluded to, and therefore, any farther notice of them at present is unnecessary. We have only to introduce to our readers the work of Dr. Greville, and some remarks on the Botanical Register and Botanical Magazine.

1. *The Scottish Cryptogamic Flora.* By Robert K. Greville, LL.D. &c. Maclachlan and Stewart, Edinb.; and Baldwin, Cradock, and Joy, Lond. 8vo.

It has been already stated, that one of the objects of the Gardener's Magazine is to form a continued record of all that is new or interesting in the periodical botanical literature of this country; and to render such a record a kind of perpetual supplement to the work now in preparation by the Conductor of this Magazine, under the title of the Encyclopædia of Plants, and an abstract of it under that of Hortus Britannicus. As these works will not only contain all the cultivated plants which have been from time to time introduced into our gardens, but will also comprehend the whole extent of the British Flora, including the lowest tribes of cryptogamic vegetation, it is impossible to omit a reference to the above truly admirable work of Dr. Greville upon the cryptogamous plants of Scotland; a work which may be honestly designated as so excellent, that nothing can be found to compete with it in the whole range of indigenous botany, except the new series of the Flora Londinensis; whether we consider the importance of its critical discussions, the accuracy of the drawings, the minuteness of the analyses, or the unusual care which is evident in the publishing department. After expressing this opinion, we are sure the work will need no further recommendation with the public.

2. *Botanical Register and Botanical Magazine.*

The following remarks have been sent us by a Correspondent.

"To those who bind up botanical periodical works in the order in which they are published, it matters not, if two pages of text are given on the same leaf, as it offers no inconvenience beyond that of throwing one of the plates to the right hand instead of the left; but those who prefer the classical arrangement to the numerical, will find an insuperable obstacle to their plan, in this union of two species, unless the two species happen to belong to one genus, or to genera closely allied. In two instances, however, which we have observed, of this deviation from the general rule in the Botanical Register (viz. pp. 730. and 947.), this is not the case; and consequently, in a classical arrangement of the volumes in which they appear, two species of the four must, of necessity, be misplaced.

" Notwithstanding the laboured kind of defence which is set up at fol. 2005, of the Botanical Magazine, the subscribers to that work have quite enough to endure, in meeting with so many plants which have been before figured, in modern works of acknowledged accuracy, without their being presented with repetitions of the same plants in the Botanical Magazine itself; and whether every such repetition is accompanied with an apology (as at fol. 981. 2313. 2543, &c.), or is foisted upon them without one (as at fol. 2508. 2555. 2596.), they are, in this respect, to say the least of it, paying for a portion of matter which they ought not to be charged with."

The same correspondent regrets the prevailing propensity for the change of botanical nomenclature without sufficient reason, and instances Acacia Conspicua changed to A. Vestita. Bot. Reg. p. 698.

ART. III. *Transactions of the Horticultural Society of London,* Vol. V. Bulmer & Co. 1824.

(*Continued from page* 73.)

67. *A Note on the Pears called Silvanges, and particularly on the Silvange Verte* (*Green Silvange*). By M. Charles Francis Piérard, of Manjouay, near Verdun-sur-Meuse; Corresponding Member of the Horticultural Society. Read March 2, 1824.

The name is derived from a hamlet on an antient road leading to Treves. There are four sub-varieties of silvanges, the early, the yellow, the long, and the green. The green is the best; all are rather tender, and require a good soil and a sheltered situation to ensure handsome and good fruit.

68. *On the Preparation of Strawberry Plants for early Forcing.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read March 16. 1824.

Gardeners have two methods of preparing strawberries for forcing; one is to put the plants in pots a year or more before they are set into the hothouse; another is, to lift them at once from the open garden with balls of earth, put them in pots, and immediately begin to force them. The latter method is generally preferred, as least expensive and troublesome. It is also Mr. Knight's method. In the course of his paper on the subject, Mr. Knight combats the opinion "that the minute fibrous roots of a plant, like its leaves, are organs of annual duration only." Willdenow and some others have affirmed this, but we believe it never was the opinion of practical gardeners, at least in this country.

69. *On Transplanting Peas for early Crops. In a Letter to the Secretary.* By Mr. Daniel Judd, F.H.S. Read March 26. 1824.

Mr. Judd has been in the habit, for the last thirteen years, of transplanting his first crop of early peas, and also his first of large late peas. He generally sows in January in pots, and transplants from the beginning of February till the beginning or middle of March. The peas are turned out of the pots, and about two inches of the bottoms cut off, before the plants are separated. In parting them care is taken to keep them in tufts of about four or six plants, which are inserted in trenches, in rows, in the usual manner. A row planted in this way on the 3d of February was, on the 1st of March following, three inches high; while another by the side of it, sown in the natural way, and which had made its appearance above ground before the others were planted, were very little more than one inch high. Peas will come earliest in poor light soil, but the best crop will always be on light rich soil.

70. *Some Account of the Edible Fruits of Sierra Leone.* Drawn up by Joseph Sabine, Esq. F.R.S. &c. Secretary, from the Journal and personal Communication of Mr. George Don, A.L.S. Read March 18. 1823.

Mr. George Don, who was sent out by the Horticultural Society for the general object of collecting plants and seeds, happened fortunately to reside, some weeks, at Sierra Leone in the season when the fruits there, were for the most part in perfection. He arrived at Sierra Leone on the 18th of Feb. 1822, and quitted the colony on the 11th of April following, and his information, added to that of Mr. Brown of the Banksian library, and some previously published documents, has enabled Mr. Sabine to give some account of the following fruits of Sierra Leone and its vicinity.

Sarcocephalus esculentus, a fleshy fruit, the size of a full grown peach. The plant grows vigorously in the stove, and is readily increased by cuttings. Plants of it may easily be procured from the London nurserymen.

Anona Senegalensis, the African custard apple, about the size of a pigeon's egg.

Adansonia digitata, monkey bread; fruit large, oblong, farinaceous, tasting like gingerbread.

Inga biglobosa, locust tree; the pods contain a farinaceous substance enveloping the seeds, similar in flavor to the monkey bread, and eaten by the negroes.

Country cherries; the species producing them unknown.

Anisophylleia laurina, monkey apple; the size of a pigeon's egg, and in flavor between a nectarine and a plum.

Vitis cæsia, country grapes; small, austere, and acid; the plant in some degree herbaceous.

Country currants, resembling elderberries; the plant probably an Antidesma.

Ficus Brassia, in memory of Mr. William Brass, a collector in 1782 and 1783, who sent it from Cape Coast. A large fruit, like the white ischia fig.

Small fig, species not known.

Psidium pyriferum, wild guavas, rather smaller than the guavas of the West Indies.

Spondias myrobalanus, hog-plum; the tree like an ash; the fruit the size of a wallnut; in taste and consistency not unlike our common plum.

Parinarium excelsum, rough-skinned plum; a timber tree, with fruit like the imperatrice plum, in size and shape; the skin rough and greyish, and the pulp dry, farinaceous, and insipid.

Parinarium macrophyllum, ginger bread plum; the fruit twice the size of the last; grown on a very handsome shrub.

Chrysobalanus ellipticus, small pigeon plum, about the size of a large damson.

Chrysobalanus luteus, yellow pigeon plum; shaped like an Orleans plum.

Sugar plum, of the size of the bullace plum, growing on a plant which throws out roots from its stem, from the height of upwards of ten feet, like a mangrove or a pandanus, by which singular character it may be distinguished at a considerable distance.

Vitex umbrosa, black plum; the tree resembles the horse chesnut; the fruit was not seen by Mr. Don.

Carpodinus dulcis, sweet pishamin, a climbing shrub, with fruit resembling a lime.

Mammea Africana, mammee apple; a lofty timber tree, with fruit the size of a man's fist, and of equal excellence with the West India mammee.

Pentadesma butyracea, butter and tallow tree; a timber tree with fruit about the size of the mammee, which when opened gives out a yellow greasy juice, of a strong turpentine flavor, mixed by the natives with their food.

Chrysophyllum macrophyllum, and obovatum, star apples, like those of the West Indies.

Tonsilla pyriformis, a fruit like a Bergamot pear, of " extraordinary merit."

Pomegranate, said to be an excellent fruit, but different from the genus Punica.

Sterculia acuminata; the seeds are considered as possessing the same virtues as Peruvian bark.

Tola, seeds used like those of sterculia.

Codarium acutifolium, two varieties; velvet and brown, tamarind; the farinaceous substance contained in the pods is used as food.

Bromelia ananas, the pine apple.

" Afzelius says that pine apples grow wild, and are also cultivated by the natives. Mr. Don states that they are so abundant in the woods as to obstruct the passage through them in every direction; they grow vigorously, and bear fruit abundantly.

" The profusion in which those plants are found both in frequented and unfrequented places, sanctions the opinion which is commonly entertained in the colony, that they are not of foreign origin, but indigenous inhabitants. This is contrary to the doctrine of scientific botanists, who hold that pine apples have been carried from America into Africa and Asia; yet it is difficult to conceive how such an exotic should have so established itself as to have assumed all the habits and characters of a native in those regions, and more especially that it should have sported in them into varieties (as is the case more particularly in some parts of Asia) so remarkably different from any that are known to exist in the countries of which alone they are supposed to be the original inhabitants.

" Two sorts of pine apples are cultivated by the colonists at Sierra Leone, one called the white, and the other the black pine apple; they are not so large as those produced in England, but have a superior flavor. The wild varieties are numerous. A very pleasant kind of wine is made in the colony from the juice of this fruit." P. 462.

From the above list, compared with that of the wild fruits of Sierra Leone in the report of Dr. Afzelius to the African Society, it appears that Mr. Don had observed more during a visit of a few weeks than Dr. Afzelius during a residence of several years; a circumstance highly creditable to the industry of Mr. Don. Besides these native fruits, they cultivate in the colony all the best of those grown in the West Indies.

So ample a list of fruits from one spot, may at first damp the ardor of those who hope to see all the exotic fruits of the world grown in this country; but when once it shall be as common to cover three or four acres of ground with a glass roof, as it is now to cover a few square yards, a Sierra Leone orchard will be a matter of no difficulty. The original expence being once incurred of covering an acre, the after management, excepting fuel, will be little more expensive than that of a flower-garden.

71. *Directions for the Management of the Hothouse Fire-places, that are constructed with Double Doors, and Ash-pit Registers.* By William Atkinson, Esq. F.H.S. Read April 6. 1824.

This is a valuable practical paper, and ought to be maturely studied by all those that have the care of hothouse fires. In abridging it, we will endeavour to give the sense as completely as possible.

After the fire is lighted, the fire-place door should be kept close, and no more air admitted by the ash-pit door than is necessary to make it burn briskly, — not violently, — because that increases the waste of fuel, without increasing the heat. At all times the air that is necessary for blowing the fire must be admitted by the ash-pit door, or register, in order that it may get heated in passing through the fire to the flame. When air is admitted by the fire-place door, it will generally rush over the fire into the flue, without being heated, thus tending to cool the flue, instead of heating it.

When the flue is properly heated, and the fuel burned nearly to redness, scarcely any air need be admitted by the ash-pit door; in most cases the fire will burn with what air gets through the crevices in the iron work. The damper should also be put in as far as it can be, so as only to keep the fire just alive, and prevent, as much as is practicable, heat escaping by the chimney. The object is to generate heat in the fire-place, just as fast, and no faster, than it is required to be given out by the flue, for maintaining the temperature of the house.

Equal quantities of coal and small cinders keep up a steadier fire than either alone. Before adding fresh fuel to the fire, push that which is unconsumed towards the farther ends of the bars, and apply the fresh fuel immediately behind it, so as to fill up the space close to the fire-place door. When fresh fuel is thrown over the surface of a hot fire, it produces an immense volume of smoke and blacks; when added in front of the fire much of the smoke given out is consumed in passing over the part ignited. When fuel is thrown to the further end of the fire, or into the throat of the flue after the fire has burnt low, and the flue is hot, "the heat of the brick work distils gas out of the coals; this gas gets into the flue, and when the fuel over the fire becomes inflamed, if the flame be drawn into the flue it ignites the gas that has been there generated, and causes an explosion; this ought to be particularly attended to, as an explosion of gas in the flue may destroy a valuable collection of plants in a moment." P. 469.

It is a common practice with gardeners and others, in supplying fuel to furnaces, to draw the live coals to the front of the fire-place, and apply the fresh fuel beyond; the proper practice, it will be observed, is directly the reverse.

Applying the cold fuel next the door, tends to prevent the door from warping with the heat of the fire. When not in use, all the external parts of a furnace ought to be cleaned and oiled to prevent rust. Apply your own hands to the handles in opening and shutting, and not the spade or shovel as is frequently practised, and very injurious. A short spade, and a short rake wholly of iron, are all the tools requisite for the garden furnace.

72. *On Forcing Grapes, as practised in Denmark. In a Letter to the Secretary.* By Mr. Peter Lindegaard, Gardener to His Majesty the King of Denmark, at the Palace of Rosenburgh, Corresponding Member of the Horticultural Society. Read July 17, 1823.

The object of this paper seems to be, to prove that fine and well-flavored grapes may be produced by means of horse-dung and tan without the assistance of fire; and that when grapes are forced slowly in this way so as to ripen about the middle or latter end of September, they possess the property of keeping till March or April following. The sorts Mr. Lindegaard prefers are the white Chasselas, and the Frankendal. In his soil he introduces old rubbish, farriers' parings of hoofs, horns, bones, &c. and oyster-shells. A pit within the house is filled with fresh horse-dung; sufficient air is given to allow the steam to escape, and after some time when the dung has settled, it is covered with tan about a foot thick, and the house shut night and day, excepting during sunshine. Nothing is said about fresh supplies of dung, but these, we conclude, must be added as circumstances require. In 1822, Mr. Lindegaard commenced forcing in this way on the 19th of February, and on the 14th of July some of the Frankendal berries turned black, and, by the beginning of September, they were fully ripe. Such as were intended for winter use he kept on the branches till the 20th of October; some of the bunches, weighing two pounds, were fit for use on the 8th of April 1823, the date of his paper.

Mr. Lindegaard has observed, that grapes forced in large houses seldom attain so dark a colour as those which are ripened in smaller houses, or frames where the fruit can be more affected by the sun's rays. To remedy this defect in a wide house, he has for some years past put boards under the trellis in the vineries, placing them at such a distance from the vines as that the grapes can hang free. The result is, grapes of almost as fine a colour as those in the smaller houses, and the boards assist in ripening the wood.

73. *On Fig-trees, and an Account of their Cultivation in a Fig-house in the Garden of the late Earl of Bridgewater at Ashridge in Hertfordshire.* By Joseph Sabine, Esq. F.R.S., &c. Secretary. Read March 16, 1824.

Three plants of the brown ischia are trained against a back wall of a narrow-house, upwards of sixty feet long. Fire is usually applied about the end of January, and a similar climate to that of forcing cherries attempted. The first crop of fruit begins to ripen early in June, and lasts till the middle of August. The second crop extends from the middle, or some period between that and the end of September, till Christmas. Thus a supply of figs during upwards of six months is obtained.

In October 1825, the conductor saw this fig-house, in which was the remainder of a good crop. Young wood was pretty equally distributed over the whole of the back wall.

74. *Notices of Communications to the Horticultural Society between May* 1, 1821, *and January* 1, 1822, *of which separate Accounts have not been published in the Transactions.* Extracted from the Minute Books and Papers of the Society.

Mr. Thomas Fleetwood, of Dunnington near Alcester, hastens the maturity of grapes on open walls by the following method. Before the vines are out of flower, he brings each bunch into a perpendicular position by a thread attached to its extremity and fastened to a nail in the wall, carefully confining the young branch with the bunch thereon, as close to the wall as possible. Fixed in this way, they ripen a month earlier than when left to hang in the usual way.

T. Patherus, Esq. destroys insects on apple and cherry trees, by rubbing with fresh green leaves of foxglove (digitalis purpurea).

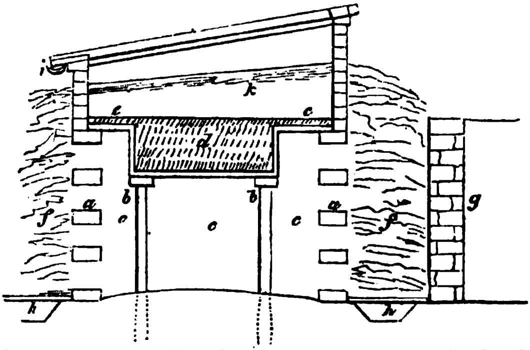
C. S. Dickens, Esq. has constructed a hot-bed for forcing cucumbers, as follows. " Instead of forming a solid bed of dung, as is usually done, he constructs four brick piers, one foot and a half high, and nine inches square, to support a two-light frame. Two pieces of timber, four inches square, are laid from pier to pier at back and front; on these is laid a platform of boards an inch and a half thick; these are plastered with neats' dung, which when dry, is covered two inches thick with good mould, and the frame is placed on the piers. Under the centre of each light, a bushel of mould is laid, forming a hillock. After this the lights are put on, and linings of hot dung applied all round, the interior space remaining hollow. In two days, the bed is fit for use; if the heat is found to decrease, a wheelbarrow full of fresh dung is added, and shaken up with the linings, and well watered. In order to confine the heat, the whole of the linings are plastered with neats' dung, by which means a temperature is obtained of from 75 to 80 degrees. A bed which was thus made on the 3d of February, produced on the 30th of March, two fine cucumbers measuring 13 inches in length." P. 491.

Mr. John Anderson, gardener to the Earl of Essex, at Cashiobury, grows celery in trenches six feet wide and one foot deep, inserting the plants in rows across the trench; a method generally practised by the market gardeners, in the neighbourhood of Edinburgh.

M. Pronville, of Versailles, finds that certain beautiful varieties of rose lose their improved colours, and return to their primitive state, when kept on their own roots. He therefore grafts them on stocks of wild rose, which besides placing the flowers at an agreeable height from the ground, retains the variety in perfection.

X Mr. John Mearns, gardener to William Harbing, Esq., at Shopden Court near Leominster, grows early cucumbers in a pit (*fig.* 32.) the walls of which (*a*) are of open wicker work.

32



There is a cavity under the bed (*c*), into which the steam from the dung lining is admitted; posts of iron or stone (*b*) support this bed (*d*), which is made of slate, stones, or tiles, while the cavity between it and the sides of the pit are closed below with slabs of stone (*e*). The pit is heated by dung linings (*f*), inclosed by walls (*g*), and kept dry by drains (*h*), and by a gutter to the sashes (*i*). The plants are inserted in a hill (*k*), and gradually earthed up in the usual manner. This pit is much cheaper than Mc Phail's, especially if the retaining walls (*g*) are omitted.

Mr. John Nairn, gardener to Thomas Forbes Reynolds, Esq., of Carshalton, has grafted cactus flagelliformis, speciosus, and speciocissimus, on cactus triqueter, which makes a singular plant, especially when the different species display their fine blossoms; he says, "I take a small part of the plant I propose to engraft, and attach it, by cutting away a slice of the fleshy part of the stock, taking off also from the piece to be attached, a small portion of the flesh, to secure its adhesion; the sap is so glutinous, that the piece will adhere without tying, but it is most advisable to fasten it with bass; great care, however, must be taken not to bruise it, for such an injury will cause it to rot. An union will soon be formed, and the graft will grow freely. The pendent direction will cause the scions to produce their blossoms, not only more abundantly, but earlier." Cactus pereskia answers equally well for an elevating stock, as triqueter.

Mr. William Gibson, gardener to Henry Peters, Esq., at Betchworth Castle, in Surrey, grows pine-apples under a frame, with the heat of leaves alone. In the fruiting frames, the plants are plunged about three inches above the rims of the pots, so that they throw out roots among the leaves, require less water than usual, and produce fruit of a higher flavor.

Joseph Brookhouse, Esq., of Warwick, grows cucumbers in a dung bed in the front of a peach-house; the peaches being trained against a back wall. The cucumber shoots are trained about four feet up wires under the front glass.

Mr. John Reid, of Yalding, Kent, exhibited a syringe, with recent improvements, a figure and description of which we have given in the 2d edition of the Encyc. of Gard. § 1419.

A remarkably large gooseberry plant grows in the garden of Mr. William Bates, a market gardener at Duffeld, near Derby; it is planted on the east side of a steep hill, the substratum of the soil being a hard grit-stone. It has been there for at least 46 years; its branches extend to 12 yards in circumference, and they have produced several pecks of fruit annually for these last 30 years. It is usually manured with soap-suds, and the drainings from the dunghill. There are two other gooseberry plants, nearly of the same size, in the garden at Overton Hall, near Chesterfield, the seat of the late Sir Joseph Banks.

The younger plant is trained to a building, and measures 53 feet 4 inches from one extremity to the other, yielding annually from four to five pecks of fruit. The other, whose age is not ascertained, is against a north wall, extends 54 feet, and is beginning to decay. Both grow in brown light leaves. The name of the variety at Duffield, is the Champagne; the names of those at Overton were not ascertained.

75. *Description of a Vinery, and Mode of Training practised in it. In a Letter to the Secretary.* By Mr. William Beattie, Gardener to the Earl of Mansfield, F.H.S. at Scone, near Perth, Corresponding Member of the Horticultural Society. Read October 7, 1823.

The vinery was designed and built by William Atkinson, Esq., in 1807. It is fifty feet long, eight and a half feet wide inside, and fourteen and a half feet high, with a front wall two feet high, wherein are ventilators two feet by one foot each, moved by means of jointed iron handles. There are also ventilators at the top under each sash, three feet by nine inches, which are moved by pullies. In consequence of this mode of ventilation, the sashes are made fast, and never taken off; from which no inconvenience arises in point of ripening the wood, but an advantage in protecting the flues from frost. The vines are planted within the house, near the front wall, through arches, in which their roots have access to the front border. They are trained in part under the front glass, then obliquely, till they reach the back wall, about half its height from the floor of the house, and lastly up the back wall. There are also cross trellises under each rafter, by which a great extent of surface is obtained to train on, compared with that on houses of much larger dimensions. The sashes being fixed are less liable to accident, and the mode of ventilating is not so apt to admit wasps as the common practice.

76. *Description of a Pine-house and Pits. In a Letter to the Secretary.* By Charles Holford, Esq. F.H.S. Read June 17, 1823.

The pine-house is fifty feet long, by thirteen wide, heated by steam, or by flues, at pleasure. The ventilation is effected by means of the top sashes, and eight moveable shutters, three feet long, by six inches wide, placed in the upper part of the back wall.

The pits are of brick work, on Mc Phail's plan; two are parallel with each other, by which the dung placed between them heats both. The dung linings are covered all round with boarded shutters. Mr. Holford says, if ventilation is required in severe weather, it can be effected by metallic pipes; but there are always fine days enough to admit of opening the sashes for this purpose.

77. *Description of an Apparatus for ventilating Hothouses. In a Letter to the Secretary.* By Mr. George Mugliston of Repton, near Derby. Read April 6, 1824.

An ingenious plan, but not calculated to be effective on a large scale, without occupying too much room. Mr. Kewley's plan (Encyc. of Gard. 1490) or one which we have heard Mr. Sylvester describe, would, in our opinion, be greatly superior, as they would operate directly on the common sashes of any hothouse. In the case of iron-roofed houses, liable to be suddenly elevated in temperature, by sudden gleams of sunshine, and depressed by clouds, or wind, a good contrivance of this sort might be advantageously introduced.

78. *On the Protection of the Blossoms of Wall Trees.* By Thomas Andrew Knight, Esq. F.R.S. and President. Read June 15, 1824.

Woollen nets, or a patent imitation of netting, having the meshes sufficiently wide to admit the ingress of bees, is the best material; but "I employ and recommend small branches of two feet in length, of the birch tree, collected as soon as the leaves have become full grown in the end of June, and preserved till the following spring." Secure them by a few nails and shreds, with their points hanging perpendicularly downwards. When danger is over, take them away in small quantities at a time.

79. *On the Cultivation of Asparagus, during the Winter.* By Mr. Peter Lindegaard, Gardener to His Majesty the King of Denmark, at the Royal Gardens of Rosenburgh, Corresponding Member of the Horticultural Society. Read May 4, 1824.

My chief crop is always delivered on the king of Denmark's birth-day, January 28th, and forcing is ~~consequently~~ commenced four or five weeks before ~~that date~~. Stir up the beds in the open garden with a fork, and heighten them with a spit taken from the alleys, which are two feet wide; the beds are four feet wide, and there are two rows on each bed; deepen the alleys to three and a half feet, then fill them with hot dung, and cover the beds with litter. One plank over the alley and another along the centre of the bed, between the two rows, will enable a man to walk and gather the crop, without injuring any thing.

80. *The Method of rearing Seed in the East Indies, of the Carrot, Turnip, and Radish, to prevent the Deterioration of those Vegetables.* By William Ingledew, Esq. Read April 2, 1822.

In India and other hot countries, many culinary vegetables very soon become deteriorated; seeds are consequently imported from England every year; but these, from various causes, are either decayed or dead on their arrival. The following practice of the Indian gardeners to procure good seeds is of unknown antiquity: they first prepare a compost of buffalo's and swine's dung, red maiden earth, adding assafœtida, in the proportion of about three drachms to five quarts of the mixture, in a state of paste. The vegetables from which seeds are to be raised, are taken up when they have attained about one third of their natural growth; the tops are cut off within a few inches of the crown, and also the tap-root: there remains now the edible part, from the bottom of which, to within an inch of the crown, are made two incisions across each other entirely through the bulb. These bulbs are then dipped into the compost until they be well covered by it, both externally and internally; they are then planted and watered, and speedily produce strong and luxuriant stalks, large blossoms, and abundance of seeds.

Innumerable roots are thrown out from the incised edges, which is probably the rationale of this part of the practice; the compost can hardly act in any other way than in excluding the air, and promoting the healing of the wound; it may also afford some nourishment to the tender fibres on their first appearance, while the assafœtida may keep off insects.

81. *Description of an Elruge Nectarine Tree, in the Garden of West Dean House, Sussex. In a Letter to the Secretary.* By Mr. John Bowers, Gardener to Lord Selsey, F.H.S. Read July 6, 1824.

This tree is trained to a wooden trellis, within a glass roof, and at a foot distance. The length of the trellis is 29 feet, and the width 22, giving 638 square feet, filled with fine bearing wood, which has for the last eleven years produced, on an average, about sixty dozen of fine fruit every season. The tree was planted in 1793, and the trunk, four inches above the surface, is thirty-two inches in circumference.

82. *A Classification of Peaches and Nectarines.* By Mr. George Lindley, Corresponding Member of the Horticultural Society. Read Jan. 6, 1824.

On this valuable paper we intend afterwards to make a separate article, by which the improvements it introduces in arrangement may be rendered available to practical gardeners. The same arrangement and sorts, unless something better occurs, will be given in the catalogue of fruits at the end of our Hortus Britannicus.

APPENDIX I. — *Biographical Sketch made by the Secretary, at a Special General Meeting of the Society, held on the 1st of Oct. 1822, for the Purpose of electing a Member of the Council in the room of Mr. James Dickson, deceased.*

See Encyc. of Gard. 2d edit. p. 1113, A.D. 1805.

II. — *A List of Pears cultivated in France and the Netherlands, with the Periods of their Maturity, their Quality, Size, Flavor, &c.* By Le Chevalier Joseph Parmentier, Corresponding Member of the Horticultural Society.

This list is useful, as indicating the time of ripening, quality, flavor, size of the fruit, and the situation most proper for the tree; and also to those who do not understand French, the proper mode of spelling the names. All these sorts, and many others, will be enumerated in the catalogue of fruits at the end of our Hortus Britannicus.

ART. IV. *Essay on the Beneficial Direction of Rural Expenditure.* By ROBERT SLANEY, Esq. London. 12mo.

WE shall take the opportunity offered by our notice of this work, to give our sentiments respecting the well-being and the well-doing of the agricultural labourers of England; subjects most intimately and powerfully connected with the healthy and vigorous state, not only of our prosperity, but also of our happiness and morals as a nation. Before, however, we go into these topics, it may be proper to premise our opinion of Mr. Slaney's little volume. It is evidently the production of a man who has really at heart the advantage of those for whom he writes; and as this embraces the rational and beneficial amusement of the rich, as well as the bettering of the condition and character of the poor, we should have received his work in good part, and given it the warm and sincere approbation of our heart, even if it had been less worthy than it is of receiving the approbation of our judgment. We will not flatter him, however: he has exhibited, throughout the whole of it, undoubted proofs that he has thought much, read much, and seen much, regarding the subjects on which it treats; but we cannot help expressing our opinion, that if he had trusted more to his own thoughts, directed and aided as they must have been by his own observations and experience, he would have made a better book. We shall express its faults in a few words: it wants method and arrangement: it is too full of quotations, not always elucidating or bearing out the opinions of the author. He informs us, in his preface, that his wish is not only "to suggest some occupations to the rich, which may combine amusement and advantage; but to introduce, at the same time, those maxims of political economy which appeared connected with the questions discussed." We are not surprised that he has got himself entangled in the mazes of modern political economy; for notwithstanding the high, we had almost said arrogant tone, with which its promulgators and teachers publish themselves to the world, as the first who have placed this science on a basis formed of philosophy and practical usefulness cemented together, we are of opinion that most of their first and elementary principles are much more calculated to perplex than to enlighten, and are, in reality, "a form of words," with little of the vitality of thought. Had Mr. Slaney, therefore, brought his own good sense to bear on the first principles of political economy, or, what would have been much better, had he brought it to bear on the process that necessarily occurs in the most simple cases of the production, distribution, and augmentation of wealth, — had he not puzzled himself with the definition of words, but neglecting them, looked into the things themselves, — had he not become enamoured with the metaphysical subtilties of Mr. Malthus, — often so subtle and immaterial, as, on the approach of an acute and vigorous intellect to vanish into thin air — his maxims of political economy, connected with the questions discussed, would have been more clear, intelligible, and sound, and of more service to the practical part of his work.

Of this practical part we shall now say a few words, before we dismiss our general notice of the volume, and proceed to our own subject. The practical part properly begins at chapter vii; and that our readers may have a fair and clear notice of it, we copy the contents of this and the following chapters: —

Chap. vii. on Agricultural Improvements; — viii. on Planting; — ix. on Pruning Forest Trees; — x. on improving Farm Buildings and Cottages; —xi. on the Improvement of Roads and Footpaths; — xii. on the Preservation of Game; — xiii. on Festivals for the Working Classes; — xiv. on the Formation of Public Libraries; — xv. on the Collection of Works of Art for Public View; — xvi. on Preventive Charity; Schools for the Poor; —

xvii. Savings' Banks; Wages of the Peasantry; — xviii. on Infirmaries and Fever Hospitals; — xix. on Loans to the Poor; — xx. on providing Employment for those in Want of it; — xxi. on Places of Amusement and Exercise for the Labouring Classes; — xxii. on the Advantages derived from Public Walks and Gardens. — Appendix, i. on Productive Investments for Capital during Peace;—ii. Progressive Increase in the Size of Trees; — iii. Agricultural Kiln for burning Clay.

Our readers, on the perusal of these contents will, we are sure, be convinced of the justice of our criticism, that the volume wants method and arrangement. There are likewise too many subjects treated of: they are all, undoubtedly connected more or less intimately with the main object of the volume. But to secure that main object, greater fullness and minuteness are requisite than could possibly be given to it, in such a small volume as this; frittered down, as the main topic is, into so many parts.

The faults of this work therefore, are, first, that his maxims are borrowed too much from metaphysical, abstruse, and often erroneous writers on political economy; words and not things are attended to. The most safe, sound, and permanent practice, that which is most likely not only to extend, but to improve, ought certainly to rest on first principles, but these should be clear, undoubted, and really principles, not merely principles in words. A few of these would have done Mr. Slaney more service than all he has borrowed and quoted from Malthus, &c. The second fault, touching upon too many points; and not going with sufficient minuteness into any. Where the object of a writer is to benefit, especially to benefit by removing what is detrimental, either to the condition or character of the great mass of the people, the advice, directions, and reasoning can hardly be too direct, full, and particular. There should be no excuse left for unwillingness, that it knows not how to proceed; no cause for perplexity and doubt to those, who sincerely wish to further the object Mr. Slaney has in view. After all, and on the whole, a good object, good intentions, and the result of considerable thought, observation, experience, and reading; at one, with us, for much more serious faults than we find in Mr. Slaney's work, and justify us in recommending it to our readers, and in thanking him for his contribution to the common weal.

We shall now proceed to our own topic: in discussing this, we shall avail ourselves occasionally of the contents of Mr. Slaney's volume; and thus enable our readers to gain a clearer insight into the nature and quality of its contents.

We shall arrange what we have to offer under three heads; first, a comparison of the condition and character of the agricultural labours at present and in former times; secondly, a plain and simple enumeration and exposition of those general principles on which all attempts to better their condition and character must proceed, if we wish to produce a permanent beneficial result, and to strike at the root of the evil; and lastly, a detail of some of the chief practical means to accomplish these objects, founded on those principles. Under this head, we shall confine ourselves chiefly to the means of ameliorating their condition and character that may be derived from the beneficial direction of the income, and of the influence and example of the landed proprietors; thus bringing our efforts to bear on the same points which Mr. Slaney in this work has in view.

It is a lamentable and notorious fact, that the condition and the character of the agricultural labourers of many of the English counties, have sunk much below what they were half a century ago. And it requires no process of reasoning to prove that such cannot be the case without a grievous diminution of their own happiness and usefulness, and of the real best strength and stability of the country. Their condition is worse: a far greater number at present than half a century ago, are unable to procure constant and regular work, and the wages of such as can procure it, though nominally larger, are in reality much smaller. And if we go still further back, we shall find that the agricultural labourer, even at the distance of 300 or 400 years, at a time when the land was covered with ignorance and barbarism, had the command of more of the necessaries of life than they have in the present day.

But on such a subject it will be necessary as well as instructive to go into detail: general assertions go for little, and are besides very suspicious, when they do not rest on particular facts. Our positions are, that the agricultural labourers of the present day, by the wages they receive, are able to purchase fewer of the necessaries of life, than the agricultural labourers formerly could purchase by their wages; that the present agricultural labourers obtain a less proportion of what their labour produces than their ancestors did; that their condition compared with that of manufacturing labourers is, at present, worse than it was formerly; and lastly, that, in the very midst of the wonderful and rapid improvement of the country in which they dwell, and to which improvement they have contributed their share; in the midst of farmers living much better than they formerly did, and raised in all respects far above that level, at which their ancestors stood; in the midst of a great increase of real wealth to the landed proprietors, — to the bettering of the condition of both which classes, farmers and landlords, the agricultural labourers have mainly contributed — in the midst of all this wealth around them, — more productive fields, a much greater quantity of land in cultivation, richer farmers, richer landlords, — they alone are, not even stationary, but in many respects, and that especially which is of primary and essential importance, a command over the necessaries of life, they alone have retrograded, while all about them, all they see, all they are connected with, has been, and is rapidly and steadily advancing.

Our first position is, that the agricultural labourer is much inferior in ability to support a family to his ancestors, three or four centuries ago, and to what he was half a century since. There may have been times, when, from the operation of temporary causes, this ability was less than it is at present; but as these temporary causes subsided, their effect disappeared; and the labourer rose to his former level of ability to support a family. And were the causes that at present depress the agricultural labourer temporary; did they exhibit any symptoms of dissolution, or even weakness; did they not, on the contrary, exhibit annually all the symptoms of having struck deeper root, and of shedding their baneful influence over a wider tract, we should have hopes, and suffer the evil to die away of itself. But, convinced that the causes lie at the very heart's core, we do not hesitate to assert, not only that the condition of the agricultural labourer is worse than it ever was, but that it is more desperate, seeing that the cause is not temporary, and that while all around smiles with prosperity, he alone is overshadowed with gloom; while all around him share more or less in the daily encreasing improvement of the country, he alone, like Tantalus, labours but to be disappointed. This is a strong picture; now to our proofs that it is a just one.

It may be necessary, in the first place, to mention our authorities: these are, Sir John Cullum's History of Hawsted; Blomefield's Norfolk; Sir Frederick Eden on the State of the Poor: Macpherson's Edition of Anderson's History of Commerce; Dr. Whitaker's History of Whally; Hallam's History of the Middle Ages, &c. Mr. Hallam justly characterises Blomefield's Norfolk, as among the most valuable of our county histories. From it, and Cullum's History of Hawsted, much curious and important information, regarding the former state of agriculture, and of the agricultural labourers, may be derived.

First: the agricultural labour is much inferior in ability to support a family to his ancestors, three or four centuries ago. We are aware that, besides food, clothing, habitation, and fuel are among the barest necessaries of life, and that some kinds of clothing are much cheaper at present than they were formerly; while the habitations of the poor are more adapted to health, and to defend them from the inclemencies of the weather, as well as more clean and comfortable. But of how little avail to the great mass of the agricultural labourers, those who have a wife and three or four children to support, is it, that all the articles of their dress made of cotton are a very great deal cheaper than they ever were, if at the same time all articles of food are much dearer; for after all, the real condition of the poor must, and ought to be estimated by their ability to procure food — what will keep them in healthful and strong existence, able to work and support themselves and families. A father of a family will care little that he can purchase, a pair of cotton stockings for his child by the wages of half a day's labour; whereas his ancestors could not have purchased them by the wages of a week's labour, if it require his wages of a week to purchase as much bread for his child, whereas his ancestors could have obtained the same by the wages of two three days. By a comparison of wages and the price of corn, therefore, at different periods, we must gain our knowledge of the real condition of the poor at these periods.

The labouring classes, especially those engaged in agriculture, were better provided with the means of subsistence, in the reign of Edward III., or of Henry VI., than they are at present. Sir John Cullum, in his History of Hawsted, has shown, that in the fourteenth century, a harvest man had fourpence a day; this enabled him in a week to buy a comb or four bushels of wheat; when Sir John published his work, in 1784, a man was obliged to work ten or twelve days to purchase the same quantity of wheat. In the time of Henry VI. meat was about a farthing and a half a pound; a labourer, therefore, whose wages were three-pence a day, or eighteen pence a week, could buy a bushel of wheat at six shillings a quarter, and twenty-four pounds of meat for his family; whereas a labourer at present, earning twelve shillings a week, can purchase only half a bushel of wheat at sixty-four shillings a quarter, and six pound of meat at eight-pence a pound.

But to come nearer to our own time: the following statement, showing the proportion of the wages of the country labourer to the price of corn, is given by Mr. Slaney.

Periods.			Weekly pay.		Wheat per quarter.		Wages in pints of Wheat.
			s.	*d.*	*s.*	*d.*	
1742	to	1752	6	0	30	0	102
1761	to	1770	7	6	42	6	90
1780	to	1790	8	0	51	2	80
1795	to	1799	9	0	70	8	65
1800	to	1008	11	0	86	8	60

In endeavouring to ascertain the *real* wages of labourers at various periods, so as to institute a comparison between their condition at present and formerly, several difficulties meet us. At present, there is no considerable difference between the price of the necessaries of life, and the wages of agricultural labour, throughout the whole extent of the kingdom; this was by no means the case three or four centuries ago, when intercommunication between places not very remote, was almost impossible, or at least so slow and difficult, that prices and wages could not adjust themselves, before the temporary causes that affected them were at an end. From this circumstance, it follows that our data respecting former times are not such as to warrant us, in all cases, in drawing a general inference. Wheat and wages might in Lancashire be double what they were in Surrey, or the reverse.

Another difficulty arises from the same denomination being given to coins containing very different quantities of the precious metals. Even after we have learnt that a shilling in the reign of William the Conqueror contained nearly as much silver as two shillings at present, and that a shilling in the reign of Henry VIII. contained only about half as much as at present,—it requires an effort of recollection, not to affix the same idea to the same denomination, and to believe and reason as if the shilling of William the Conqueror, Henry VIII. and George IV. were the same in intrinsic value as in denomination.

This, however, is of little consequence, when we compare the price of various articles, and of wages at the same period: if the standard is the same by which they are measured, it is of little consequence, whether the shilling be that of William, Henry, or George: it is only when we compare prices and wages at different periods, that we shall be able to institute an accurate comparison between the ability of a labourer to support his family at one period and at another, unless we always bear in mind what the term shilling means at these periods.

We do not deem it necessary, therefore, to insert a comparative table of English money at various periods; but shall content ourselves with referring to Mr. Frederic Eden's Table on this topic. In order, however, that our readers, may be able to ascertain the relative value of the principal articles of food, &c. at different periods, we shall extract the following particulars from the appendix to Macpherson's edition of Anderson's History of Commerce.

A. D.		£.	s.	d.
1230.	Seed wheat, per quarter -	0	4	0
	—— oats - -	0	3	0
	—— beans -	0	2	11
	Cart horse -	0	8	0
	Ox - -	0	8	0
	Cow - -	0	6	8
	Sheep - -	0	1	0
1272.	A labourer, per day -	0	0	1½
	A harvest man -	0	0	2
	Harrowing with one horse -	0	0	10
1275.	Oats in Scotland, per boll -	0	0	4
	Barley in ditto -	0 0	0 or 0	8 10
	Wheat usually -	0	1	4
	——— when scarce -	0	1	8
1283.	A slave and his family sold by the Abbot of Dunstable for	0	13	4
1284.	An ordinary horse in Berwick	1	0	0
	A carcase of mutton in ditto, from Easter to Whitsunday	0	1	4
	From Whitsunday to St. James's Day -	0	1	0
	Thence to Michaelmas -	0	0	10
	Thence to Easter -	0	0	8
1289.	Wheat, per quarter -	0	6	0
	Rye - -	0	5	0
	Barley - -	0	3	0
	Beans and peas -	0	2	8
	Oats - -	0	2	0
	A swan - -	0	3	4
	A duck - -	0	0	1
1298.	An ox - -	0	6	8
	A cow - -	0	5	0
	A heifer - -	0	2	0
	A sheep - -	0	1	0
1300.	Wheat, from - 0 3 4 to	0	10	0
	Oats - 0 1 8 to	0	4	0
	Barley - 0 3 4 to	0	5	0
	Peas and beans 0 1 8 to	0	6	0
	Rye - -	0	5	0
	Flour - - 0 4 0 to	0	9	0
	Sea-coal at Berwick per quarter - 0 0 6 to	0	0	6½
	Oxen, carcase, from 0 5 0 to	0	8	0
	Horse-shoes, per hundred - 0 8 7 to	0	10	0
	Nails for them, per thousand - 0 1 3 to	0	1	8
	Milk goats, each -	0	3	0
	Keeper of them, per day -	0	2	0
	A primer for the Prince of Wales, now 15 years 11 months old -	2	0	0
1302.	Wheat, per quarter -	0	4	0
	Peas - -	0	2	6
	Oats - -	0	2	0
	A bull - -	0	7	4
	A cow - -	0	6	0
	A fat sheep -	0	1	0
	An ewe - -	0	0	8
	A capon - -	0	0	2
	A cock or hen -	0	0	0½
1317.	Wheat at Leicester, on a Sunday - -	2	4	0
1317.	Wheat on the Wednesday following - -	0	14	0
	——— in some other places -	2	13	4
	This year there was an early harvest, and wheat fell from	4	0	6
	to - -	0	6	8
	And oats from -	3	4	0
	to - -	0	5	4
1334.	Keepers and porter of Woodstock Park, each, per day -	0	0	2
	Gardener (only one mentioned)	0	0	1
1351.	By the statute of laborers, all workmen were obliged to serve for the same wages which had been usual in the ten years preceding; and to receive their wages, at the option of their employers, either in money or in wheat; but this was never to be rated higher than 10d. a bushel.			
	Weeders and hay-makers, per day - -	0	0	1
	Mowers - -	0	0	5
	Reapers in the first week of August, (2*d.* afterwards) -	0	0	3
	For threshing wheat, rye, per quarter - -	0	0	2½
	—— barley, beans, peas, and oats - -	0	0	1½
1351.	A master free mason, per day	0	0	4
	Master carpenters, masons, tilers, thatchers, plasterers, &c. - -	0	0	3
	Inferior carpenters -	0	0	2
	Their servants or boys -	0	0	1½
1373.	Rent of a garden in the city of London, measuring 95 by 9½ ells, per ann. -	0	6	8
1389.	Bailiff - -	0	13	4
	Chief labouring husbandman	0	10	0
	Carter and shepherd, each -	0	10	0
	Cowherd - -	0	6	8
	Swineherd -	0	6	0
	Plough-driver, at most -	0	7	0
	Woman labourer -	0	6	0
	Dairy-woman -	0	6	6
	All with clothing and diet.			
1407.	Wheat, per quarter -	0	3	4
	Oats - -	0	2	0
	A cow - -	0	7	0
	A calf - -	0	1	8
	A plough - -	0	0	10
	A dung-cart complete -	0	1	2
	A pair of cart wheels -	0	3	9
	Wages of a thresher, per day	0	0	2
1425.	Wheat for making malt, per quarter -	0	4	0
	Wages of a stone-cutter, per day - -	0	0	4
	——— tiler and his 2 servants	0	0	10
	——— sawyer -	0	0	4
	——— ploughman -	0	0	1
	A quarter of an ox to salt -	0	1	4

A. D.		£	s.	d.	£	s.	d.
1425.	Russet cloth for the shepherd, per yard	0	1	1			
		In money.			For clothing.		
1446*.	Bailiff, per ann.	1	3	0	0	5	0
	Chief hired carter and shepherd	1	0	0	0	4	0
	Common farm servant	0	15	0	0	3	4
	Woman servant	0	10	0	0	4	0
	Girl under 14	0	6	0	0	3	4
					For victuals.		
	Free mason and master carpenter, per day	0	0	4	0	0	1
	Tiler, slater, &c.	0	0	3	0	0	1
	Labourer	0	0	2	0	0	1
	From Michaelmas they had each 1d. less.						
	† A mower per day	0	0	4	0	0	2
	Reaper and carter each	0	0	3	0	0	2
	Other labourers & women	0	0	2	0	0	2
1500.	Wheat, per quarter	0	3	4			
	Peas	0	2	0			
	Timber hewn, per load	0	4	0			
	A plough, with harness	0	3	4			
	Wethers, young and old, per hundred of 6 score	9	0	0			
	A bullock	0	7	0			
	An ox	0	11	8			
	Steers and heifers, average, each	0	9	0			
	A cow	0	8	0			
	A trotting gelding	1	0	0			
	A great trotting gelding	10	0	0			
	An ambling hobby	1	6	8			
	A feather bed and bolster	1	0	0			
	Pair of blankets	0	2	0			
	A pair of flaxen sheets, 21 yards	0	10	6			
1508.	A fat wether	0	2	4			
	A lamb	0	1	0			
	A pig	0	0	5			
	A gosling	0	0	4			
	A capon	0	0	4			
	Chickens, 30 for	0	1	11			
	Cream, per gallon	0	0	4			
	Milk, ditto	0	0	1			
	Honey, ditto	0	0	8			
	Charcoal, per quarter	0	5	0			
		In money.			For clothing.		
1514.	Wages, with diet, of a bailiff in husbandry, per annum	1	6	8	0	5	0
	Chief hind, carter, and shepherd	1	0	0	0	5	0
	Common servant of husbandry	0	16	8	0	4	0
	Woman servant	0	10	0	0	4	0
	Servant under 14 years	0	6	8	0	4	0
1514.	Free mason, master carpenter, rough mason, bricklayer, tiler, plumber, glazier, carver, joiner, per day each, from Easter to Michaelmas	0	0	6	0	0	0
	During the rest of the year they had 1d. less; and if the employers furnished diet, they deducted 2d.						
	Mower, per day,	0	0	6	0	0	0
	Reaper and carter, other laborers and women, per day, in harvest	0	0	4½	0	0	0
1530.	A herd boy in Scotland, with a shirt, pair of shoes, diet, &c. per annum	0	3	0			
1533‡.	Beef, per lb.	0	0	0½			
	Mutton	0	0	0¾			
	Beef at the highest, per cwt.	0	4	8			
	Fat oxen, each	1	6	8			
	Fat wethers, ditto	0	3	4			
	Fat calves	0	3	4			
	A fat lamb	0	1	0			
	Milk, genuine from the cow, three ale pints in summer, and two ale pints in winter, at Goodman's Fields, near the Tower of London	0	0	0½			
1557§.	Wheat, per quarter	2	13	4			
	Beans and rye	2	0	0			
	Malt	2	4	0			
	Peas	2	6	8			
	Wheaten loaf of 11 ounces	0	0	1			
	‖ Wheat	0	5	0			
	Malt	0	6	8			
	Rye	0	3	4			
	Wheaten loaf of 56 ounces	0	0	1			
1610.	Wheat and malt at Windsor, per quarter of nine bushels	1	15	10			
	A bailiff, per ann.	2	12	0			
	A good servant in husbandry	2	10	0			
	A common servant who can mow	2	0	0			
	A ploughman	1	9	0			
	A boy under 16	1	0	0			
	A woman servant, who can bake, brew, and overlook others	1	6	8			
	Other women servants 16s. to	1	0	0			
	A girl under 16	0	14	0			
	A chief miller	2	6	0			
	A common miller	1	11	8			

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* Highest wages, with diet, by 23 Henry 6. c. 12.

† Highest wages in harvest.

‡ This year it was enacted, that butchers should sell their meat by weight.

§ Before harvest, in London.

‖ After harvest.

But even after the quantity of silver, contained at various periods in coin that all along retains the same denomination, is accurately fixed, there is another difficulty; this arises from the insufficient data, for the construction of a table by which all changes in the value of money should be measured. Mr. George Shuckburgh constructed such a table: but Mr. Hallam observes, "It is strangely incompatible with every result, to which my own reading has led me. It is the party attempt of a man accustomed to different studies; and one can neither pardon the presumption of obtruding such a slovenly performance on a subject where the utmost diligence was required, nor the affectation with which he apologizes for 'descending from the dignity of philosophy.' (Hallam vol. ii. p. 17. note, 4to edit.) This is plain and strong censure; but, as far as our reading goes, it is by no means unmerited.

Mr. Hallam remarks that within these few years "a very laudable industry has been shown by antiquaries, in the publication of account-books belonging to private persons, registers of expences in current returns of markets, valuations of goods, tavern bills, and in short every document, however trifling itself, by which this important subject can be illustrated."

In applying such a table to an illustrative comparison of the condition of the labourers, and of other classes, at different periods, we ought to attend to one special caution. If we estimate the changes in the value of money by its command over the few articles required by the labourer, we shall find its actual depreciation much greater than they would prove to be if estimated by its command over the various articles purchased by those in a higher rank of life. A rise of 50 per cent in corn and meal is of comparatively little consequence to a man who spends only one tenth of his income on these articles; whereas it is of infinite moment to the labourer, three fourths of whose wages are laid out on them. The same table, therefore, when applied to the expenditure of the rich, may point out a depreciation in the real value of money, only to the amount of 15 or 20 per cent; whereas, when applied to the expenditure of the poor, it may prove a depreciation of 50, 60, or 70 per cent.

The following is the result of Mr. Hallam's "endeavour at a sort of approximation of the value of money for the thirteenth and fifteenth centuries. In the reigns of Henry III. and Edward I., previously to the first debasement of the coin by the latter in 1301, the ordinary price of a quarter of wheat appears to have been about four shillings, and that of barley and oats in proportion. A sheep was rather sold high at a shilling, and an ox might be reckoned at ten or twelve. The value of cattle, is of course dependant upon their breed and condition, and we have unluckily no early account of butchers' meat; but we can hardly take a less multiple than about thirty for animal food, and eighteen or twenty for corn, in order to bring the prices combining the two; and setting the comparative dearness of cloth against the cheapness of fuel, and many other articles, we may perhaps consider any given sum under Henry III. and Edward I. as equivalent, in general command over commodities, to about twenty-four or twenty five-times that nominal value at present. Under Henry VI. the coin had lost one third of its weight in silver, which caused a proportional increase of money prices; but so far as I can perceive, there had been no diminution in the value of the metal. By the statute 15 Hen. VI. c. 2. the price up to which wheat might be exported is fixed at 6*s.* 8*d.*; a point, no doubt, above the average; and the private documents of that period, which are sufficiently numerous, lead to a similar result. Sixteen will be a fair multiple when we would bring the general value of money in this reign to our present standard.

If the acts of parliament that regulate the wages in the fourteenth and fifteenth centuries are considered with reference to the value of money at these periods, we shall gain farther insight into the condition of the agricultural labourers then. The statute of labourers in 1350 fixes the wages of reapers during harvest at 3*d.* a day without diet, equal to 4*s.* at present; that of the 23 Hen. VI. c. 12., in 1444, fixes the reapers' wages at 5*d.*, and those of common workmen in building at 3½*d*, equal to 6*s.* 8*d.* and 4*s.* 8*d.* at present; that of the 11 Hen. 7. c. 22., in 1496, leaves the wages of labourers at harvest as before, but rather increases those of ordinary workmen. The yearly wages of a chief hind or shepherd, by the act of 1444, were 1*l.* 4*s.* equal to about 20*l.*; those of a common servant in husbandry 18*s.* 4*d.*, with meat and drink. From a bailiff's account of expences in 1387, published in the Archæologia, it appears that a ploughman had 6*d.* a week, and 5*s.* a year, with an allowance of diet, which seems to have been pottage. These wages are about equivalent to 15*s.* a week in present value.

How seldom are the agricultural labourers of our times able to purchase meat for dinner: this was not the case in the middle of the fifteenth century. Sir John Fortescue, who lived then, remarks, that the English lived far more upon an animal diet, than their rivals the French; and Harrison informs us, that the Spaniards who came to England in Queen Mary's days observed, "these English have their houses made of sticks and dirt, but they fare commonly so well as the King."

We think we have offered a sufficient number of facts to make out our first position regarding the condition of the agricultural labourers, — that their wages at present give them the command of a less quantity of the necessaries of life, and consequently, that they are much inferior in ability to support their families to their ancestors three or four centuries ago, and to what they were at the commencement of the reign of George III.

In our next paper we shall endeavour to prove our other positions respecting their condition ; — that they obtain a less proportion of the produce of their labour ; — that they are worse off, compared with manfacturing labourers, than they were formerly : — and that, while rents, and the value of land, have been increasing, and the country and all other classes improving, their condition has been retrograding.

(*To be continued.*)

Art. V. *Verhandlungen des Vereins zur Beforderung des Gartenbaues, &c.; Transactions of the Society for the Promotion of Gardening in Prussia.* Berlin 1824. Parts 1. and 2. 4to.

The Prussian Horticultural Society, was established in 1822, in consequence of an order from the king; their first public meeting was in December that year; and at their third sitting, in March 1823, some papers were read. From that time to August 1824, they found matter enough to publish sixty articles, on a great variety of subjects, the authors of which are partly royal and commercial gardeners, and partly amateurs. We pass over several introductory papers explanatory of the origin of this society, to

No. 10. *Observations on forcing the Turkish Ranunculus.* By Mr. P. F. Bouché, Commercial Gardener at Berlin.

To grow the ranunculus well in Prussia, it is planted on a slight hot-bed in autumn, and protected through the winter by a frame; the sashes of which are removed when the plants are in flower. To force the ranunculus, tubers which have been kept three or four months, or even a year over the season of planting, are chosen, as being more easily excited than those which have been only the usual time out of the soil. They are planted in pots, about the beginning of August; and by bringing these into the green-house at different periods, a bloom is kept up from October to February.

11. *On the Culture of the Torch-Thistle.* By Mr. P. F. Bouché, Commercial Gardener in Berlin.

There is scarcely any thing in this paper that is not familiar to the English gardener. Cactus hexagonus and tetragenus, with some other species, will not flower well if kept all the year in the hot-house; but if placed in the open air in summer, they grow slower, but flower much more freely. In general, he observes, the cactus genus require to be kept very near the light, otherwise they would grow, but never produce blossoms. He adverts to their natural situation, where they are fully exposed to the sun, on rocks or burning sands, never shaded by trees, and seldom visited by showers.

12. *On the Culture of the Rhododendra.* By Mr. L. Mathieu, Commercial Gardener in Berlin.

The common nursery culture of this genus is given, with directions to protect the plants through the winter by coverings of boards, or litter.

13. *On ringing of Fruit Trees.* By Mr. R. Werthmeister.

Mr. W. made rings round the branches of several apple, pear, plum, peach, apricot, and walnut trees, and some grape vines, with a view to enlarging the size and quantity of the fruit, and promoting its ripening. He succeeded in these respects, and found some of the fruits, especially of the green gage plum, a third part larger; and he says, from eight to even twenty days earlier, than on the other branches of the same trees, which he did not ring. He also tried the operation on some raspberry plants, but he found no effect produced in the fruit, though the young shoots lost their leaves sooner.

14. Is composed of extracts from what passed at the Fourth Meeting of the Society, on the 6th of April 1823, and which are only of local interest.

15. *On the cheapest and most durable Mode of ticketing Plants, whether in the Open Air or in Glass-Houses.* By Mr. Dern of Scarbrück.

16. *Observations on the above.* By Mr. Otto, Inspector of the Botanic Garden at Berlin.

Mr Dern, after trying tin, wooden, and slate labels, at last had them made of zinc, which oxidizes very little in the open air, and can be written on or painted at pleasure. He preferred giving them a coat of paint, and writing the name with a pen in red colour ground in turpentine. Mr. Otto decidedly prefers the zinc labels, and next to them, those of earthenware; which last, however, are too expensive for general purposes. The handsomest, he considers, to be earthenware, with the name written under the glazing.

17. *On shortening the Tap-roots of Plants,* By Mr. F. Masseli of Militsch.

18. *Anonymous Remarks on the foregoing Treatise.*

19. *Opinion of the Committee on the foregoing Treatise, and Remarks.*

20. *Anonymous Remarks on the Opinion of the Committee.*

21. *Illustration of the foregoing Anonymous Remarks.* By Mr. Lenné.

Mr. Masseli has found that shortening the tap-roots of stocks for fruit-trees, a practice which would seem to be new about Berlin, increased the production of lateral fibres, and, as he said, made the stock grow faster and stronger. He thinks the same practice may be advantageously applied to young forest-trees, on which the anonymous remarker observes, that it has long been the practice in that department of gardening; and quotes, in proof, from the works of the forresters Burgsdorff and Hartig. These authors very properly observe, that in transplanting trees, it is impossible to avoid breaking the tap-root, if the tree is five or six feet high; and that, therefore, it becomes advantageous to move the tree two or three times in the nursery, shortening every time the perpendicular roots. The committee, after a good deal of discussion, come to the conclusion "that shortening the tap-root is a necessary evil, which should only be allowed under certain circumstances; that, therefore, it is absolutely improper with young plants, that are transplanted at once to the spot where they are finally to remain; with some others, however, it is necessary, as a preparation for their future transplantation, and in that case gardeners should proceed with more care than is generally employed." This last remark is an allusion to what was stated by one of the writers, that in forest-tree nurseries the seedling plants were taken in large handfuls, and their tap-roots chopped off with an axe, by a labourer, who did not know what he was doing.

22. *Experimental Observations on the Culture of the Bletia Tankervilleæ.* By Mr. Otto, Inspector of the Botanic Garden in Berlin.

The soil he recommends is one part of leaf-mould, one of peat-earth, and one of river-sand; the pots should be plunged; and very little water given when the roots are not in a growing state. The plant, Mr. Otto considers as an epiphyte.

23. *On the Culture of the Ferraria Pavonia.* By Mr. L. Mathieu.

This plant, about Berlin, is grown in pots; but there is nothing new to us, on this side of the water, in Mr. Mathieu's account of its culture. Indeed, what Mr. Sweet has said on the culture of bulbs and epiphites, in the last edition of his Botanical Cultivator, may be considered as the *ultimatum* on this subject, for the British gardener.

24. *On the Culture and Use of the Sea or Shore-Cale, Crambe Maritima.* By Mr. Brash, Royal Gardener at Bellevue; with an Appendix, by Mr. Voss, Royal Gardener at Sans-Souci.

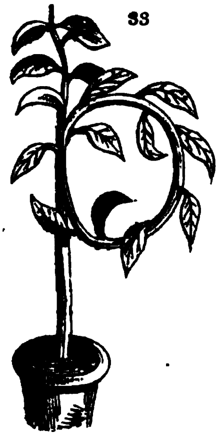
This vegetable is cultivated in the open garden, in the same way as in Britain, and also forced by covering with pots of earthen-ware, or frames of boards, surrounded by fresh horse-dung. The appendix consists chiefly of extracts from the pamphlet of Curtis on Crambe.

(*To be continued.*)

ART. VI. *Récit d'une Excursion Horticulturale faite à Londres, dans le mois d'Avril*, 1824, par M. Soulange Boudin, Membre de la Société Linnéenne de Paris, et de la Société d'Encouragement pour l'Industrie Nationale, &c. &c. (Extrait des Annales de l'Agriculture Françoise, 2d série, tome xxviii.)

M. SOULANGE BOUDIN is not exactly a nurseryman, but one of those gentlemen or proprietor cultivators, common on the continent, who are fond of gardening, keep up a collection of plants, and propagate them for sale with a view of paying the expences of the establishment. We have no parallel description of cultivators in this country, unless we except a number of the merchants of Liverpool, who have villas in the vicinity, and send their extra fruit and vegetables to market. There are few descriptions of books more entertaining to the horticulturist than Mr. S. Boudin's pamphlet; and we only wish it had embraced a more extensive account of the suburban gardens of the metropolis; but our author only visited the Horticultural Society's Garden, and a few of the principal nurseries, and these only with the eye of a cultivator, or rather nurseryman.

He sets out by expressing his warm approbation of the extreme neatness, cleanliness, and order, displayed in English hot-houses in general; and admires our plan of setting plants on open stages, elevated so as to bring them near the glass; a practice not common in France, where they are for the most part set on the level floor. In Lee's nursery, he was much struck with the heaths, and seems to consider the collection there as the best in the neighbourhood of London, and in the most vigorous growth. Their healthy appearance he says, is supposed to be owing to the practice of watering them with water in which the leaves and stalks of common heath have been steeped. This, we believe, has no foundation in fact; though Mr. Knight, the P. H. S., in a paper in the Horticultural Transactions has suggested the idea of forming a liquid manure for heaths, or other rare plants, by the maceration of the leaves of their own, or of nearly allied species.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In Mr. Knight, the nurseryman's hot-houses, he saw the greatest number of seedling camellias; and he describes a mode which that cultivator tried, but without success, to accelerate the period of their blossoming. This was as follows: when the plant had attained the height of 18 or 20 inches, and consisted of one shoot, it was bent so as to form a circle, and inarched to itself. (*fig.* 33.) Mr. Knight's object was to cause the sap to follow this course, and by that means promote its maturation for producing flowers; but it does not appear that any manipulation of this sort has much or any effect.

The president of the Horticultural Society thinks even ringing will fall short of this desired object; though the experience of Mr. Hempel, the German pomologist, led him to a different conclusion. It is certain, however, that the quickest way yet known of inducing blossom in any seedling plant of the ligneous kind is to take a bud or graft from it, and insert it in the extremity of a bearing branch of a tree of the same species, as the president does in the case of seedling peach trees. (Gard. Mag. No. 1. p. 70.) Much depends also on the full exposure of the foliage to the light: seedling camellias kept in a house exposed to the north, or kept in any house several feet from the glass, will not come to a state of puberty or maturation for flowering, as when kept within a few inches of the glass.

M. S. Boudin admires, as every man must, the extensive and well-regulated establishment of Messrs. Loddiges, and is in raptures with their lofty palm-house, its fine specimens of plantains, palms, tropical liliaceæ and epiphytes. He notices their extensive steam apparatus, their beautiful contrivance for imitating rain, their fine collection of camellias, and their systematic mode, whether with the hardy or house collections, of keeping the plants of each genus and species by itself. So extensive a concern, indeed, could never be managed with so few hands as it is, without this judicious arrangement.

In noticing Mr. Mackay's nursery, at Clapton, he makes no mention of the collection of heaths there, which is, we believe more extensive than that of Mr. Lee, and exceeded only by that of Messrs. Loddiges. At Messrs. Brooks, of Balls Pond, he saw those rare plants, Azalea variegata and purpurea; and at the Mary-le-Bone nursery, he saw Andromeda floribunda, for which Mr. Jenkins asked him "un prix enorme." Some years ago the proprietor asked 30 guineas for this plant; but having now succeeded in propagating it, he asks from 10 to 15 guineas. At the Fulham nursery M. S. Boudin saw several rare plants, among others the original stock plant of what is commonly called Camellia axillaris, now considered as belonging to a different genus, which he purchased. At Mr. Colvill's, the new conservatory and plant-stove rivetted his attention, not more on account of the variety of rare plants which they contain, than the elegance of the design of the houses, and the substantial and beautiful manner in which the flues, shelves, paths, trellises, &c. are executed. He is well acquainted with the publications of Mr. Sweet, and pays a just compliment to his science as a botanist, and skill as a cultivator.

But the greatest share of our author's time and attention was bestowed on the Horticultural Society's Garden. With every thing there he is highly gratified, and more especially with the hot-houses, their construction, the interesting collection they contain, and the high order and keeping maintained in them. He notices the practice, found within these few years to be so conducive to the health and growth of plants in hot-houses, of keeping the air moist in proportion as it is heated; and for this purpose, the necessity of watering the flues and paths of the house copiously, and several times a day; and even inundating the passages every two or three hours in very hot days. He adverts to the excellent paper of Mr. Daniel, relating to this subject, in the Society's Transactions. (Vol. iv. part 1.) When about to return to France, M. S. Boudin received a present of that beautiful plant the Primula sinensis, which, in a subsequent publication, he tells us he succeeded in propagating by cuttings; a thing not easily done, because, among other reasons, the plant produces very little that can be cut off for that purpose. Finally he expresses his gratitude to Mr. Sabine, and, in common with most foreigners who visit the Chiswick garden, pays a tribute to the intelligence and amiability of Mr. Lindley, the garden secretary, whose botanical acquirements are not of less value to foreign visitants, than his knowledge of modern languages; and who on this, as well as on other accounts, contributes to the dignity and ornament of this part of the great horticultural establishment.

ART. VII. *Catalogue of Works on Gardening, Agriculture, Botany, &c. published since November last, with some account of those considered the most interesting.*

BRITISH.

Trotter, Alexander, Esq. of Dreghorn, near Edinburgh: Method of Book-keeping. Edinburgh, 8vo.

"The method of book-keeping which is here explained, has been, and continues to be, that by which Mr. Trotter's books are actually kept; the printer's copy for this publication having been little else than a transcript from these very books." The editor of the Farmer's Magazine states that he has seen these original books, which, he says, "are kept, in fact, not by Mr. Trotter himself, but by his agronome, Robert Guthrie, who seems to be quite as much master of the system as his employer; and with few exceptions, all the entries are in the hand-writing of this person or his daughter, the latter indeed being the principal book-keeper; and all these, the book of yearly and day-labour, the journal and cash-book in one, and, the ledger, are not only kept with great neatness and accuracy, but, what, we confess, appeared at first quite incredible,—all the entries are made at by-hours, after the labours of the day. Our scepticism on this point was the more excusable, when it is known that the books we allude to are not confined, like the published book, to the business of a single farm, but embrace all the Dreghorn estate, including the house, garden, and pleasure grounds. The fact is nevertheless certain. Let no one therefore be alarmed at the demand upon his time which would be made by adopting this method. (*Farm. Mag.* Vol. xxvi. p. 474.)

Botanical Sketches. London, 8vo. Old plates of the Linnean classes, with a new title.

Kirby, W. M.A., F.R. & L.S. Rector of Barham; and *William Spence,* Esq. F.L.S. An Introduction to Entomology; or, Elements of the Natural History of Insects. London. Vols. 3 & 4.

This interesting and valuable work being now completed, will soon find its way into every gentleman's library, and as it contains much instructive matter respecting the insects of gardens, we would advise every reading gardener to ask the loan of it from his master, and to peruse it with care. When we can find room, we shall make appropriate extracts.

Dacre, The Rev. B. A.L.S. Testimonies in Favour of Salt as Manure, and a Condiment for Horse, Cow, and Sheep, &c. London, 8vo.

Finlayson, John, of Kaims, Muirkirk, Inventor and Patentee of the Self-cleaning Ploughs and Harrows: The British Farmer; or, a Series of Scientific and Practical Essays on Agriculture; to which is added the Ploughman's Guide. London. 8vo. 7 copper-plates.

The first chapter of this work, treats of the patent Self-cleaning Plough, and the second of the Art of Ploughing, or the Ploughman's Guide. The purpose of both is to describe and recommend the different ploughs of the author's invention. Chap. 3. treats of putrescent manures, and enters into the details of fermenting peat moss, by Lord Meadowbank's method; and of improving moss, by the application of lime, burning, &c. Indeed the subject of moss and muirlands occupies almost the whole of this book; the implements which its author has invented being more especially adapted for working moors, heaths, and rough lands. Chap. 4. treats on furrow trenching; and chap. 5. which in bulk includes about half the volume, is on the cultivation of moss. An Appendix contains testimonies in favour of the utility of the new implements, which are, the Imperial Self-cleaning Plough; the Heath Self-cleaning Plough: the Kentish Skeleton Self-cleaning Plough; the improved Scotch Plough, which contains a rod from the sheath of the plough to the muzzle, for being put on when the plough is wrought by both horses walking in a line in the furrow. The Imperial Self-cleaning Harrow is next described; then the Self-cleaning Drill Harrow; and lastly, the new Spring Weighing Machines. All these implements have been very much approved of in different parts of Scotland; but being chiefly calculated for land in an imperfect state of cultivation, or where very rough stubbles are left, it may be doubted if they will come into general use.

Sweet, Mr. Robert, F.L.S. The British Warblers; or, Account of the Genus Sylvia; in one Fasciculus; illustrated by Six beautifully coloured Figures, taken from living Specimens iu the Author's Collection; with Directions for their Treatment according to the Author's Method; in which is explained, how the interesting and fine Singing Birds belonging to this Genus may be managed, and kept in as good health as any common Birds whatever. London. 8vo. Plates.

"The British species belonging to this interesting genus are chiefly birds of passage, visiting this country in spring, and leaving it again in autumn. Several of them are deservedly esteemed as the finest songsters of all the feathered race: the nightingale, in particular, has the sweetest and most pleasing note of any kind at present known. It has been generally supposed that they are very difficult to preserve in confinement; but the author of this work has succeeded well in preserving the greater part of the most interesting species through several winters in perfect health, and most of them are in full song all the winter."

"They will succeed very well in a warm room in winter, or, if convenient, any part of a hot-house or warm conservatory would suit them admirably; but they require a little fresh air when the weather is mild; they may be preserved in cages, either separately, or several together; or in a small aviary, where all the species might be intermixed. The temperature of the room where they are, ought never to be much below temperate, though several of the species do not mind a slight frost; the sorts that the author has found to suffer most from cold, are *S. rubetra* (the Whinchat), and *S. phœnicurus* (the Redstart); the Nightingale (*S. luscinia*) is not near so tender as these; *S. cinerea*, *S. sylviella*, and *S. atricapilla*, scarcely seem to mind the cold at all."

We recommend this work to our horticultural readers, because we think singing birds of different species, native as well as exotic, form a great addition to the flower garden, and botanic hot-houses. In the former we would distribute different sorts in cages in the day time, taking them in at night; in the latter we would hang up cages also; for the birds when left to fly about, as in the hot-houses at Schœnbrünn, are apt to dirty the leaves of the plants, besides requiring certain arrangements of wire-work to prevent their escape.

Guilding, The Rev. L. B.A. F.L.S., &c. An Account of the Botanic Garden of St. Vincent. Glasgow. 4to. 4 plates.

This garden is stated to owe its origin to the Society of Arts, and to have been commenced under Governor General Melville, 1765. It consisted at first of twenty acres, but was afterwards increased to thirty-nine and a half. Dr. George Young, Surgeon to the Forces, the principal medical officer stationed in the island, was first intrusted with the charge of the ground, which he held for many years. In 1774 the doctor made a report of his progress to the Society of Arts, which they were pleased to reward with a present of fifty guineas. In the troubled times which succeeded, the garden was much neglected and injured, but was again restored in 1785, and somewhat increased, by Alexander Anderson, Esq., Surgeon, who was shortly afterwards appointed its superintendent.

At this period the institution was taken under the protection of Government, who supported it with great liberality till it was presented to the colony in 1822. In 1792 it was increased, but it suffered in some degree during our contest with the French and Caribs. Mr. Anderson with great pains collected all the most remarkable of the native plants, and in his excursions to other islands, obtained many curious species.

About 1787, the clove, and several varieties of cinnamon, were introduced from the French islands, to which they had been brought by their ships from Asia. The clove, shortly after this period, was cultivated zealously in Dominique. In Jamaica the cinnamon was planted on a large scale in many parts of that extensive colony.

Mr. Anderson, in 1791, sailed to Guiana in search of valuable plants, where his zeal was amply rewarded.

Every exertion was made, as well by private individuals as by the authorities in England, to render His Majesty's Botanic Garden of St. Vincent the source from which valuable plants might be spread over the adjacent islands. Trials were made to introduce plantations of Cactus coccinellifera and to propagate the cochineal insect. Many valuable seeds from Asia were sent here by the Board of Trade. At a subseqent period others were forwarded by the Board of Agriculture. A considerable number were procured from correspondents in North America, almost all of which are now flourishing and dispersed over our colonies.

His Majesty was pleased in 1790, to send a ship to the South Seas to procure for it the bread-fruit, Artocarpus incisa, and every other valuable tree that could be obtained. The lamentable termination of this first voyage is known to every one; but, not discouraged by the fate of the first, the king determined to fit out a second ship of discovery, and shortly afterwards Captain Bligh set sail in the Providence, and in January 1793, landed about 530 plants on the shores of St. Vincent.

In 1798, a catalogue was made of all the plants within the garden, conveniently arranged; and another was published by the Society of Arts in the 25th volume of their transactions.

Mr. Lockhead, who afterwards succeeded Dr. Anderson, had obtained from Cayenne several nutmegs. These in 1809 were introduced by Captain Dix of the Cygnet. The trees have borne well for many years.

Worn out with toil, the venerable Anderson began to decline, and in July 1811, resigned the garden to his estimable friend and fellow-labourer William Lockhead, Esq. M.W.S. Edinburgh.

On the 8th September, 1811, the virtuous Anderson was numbered with the dead. To this industrious and respectable botanist the garden owes its prosperity. Since his death it has in some degree declined. The greater part of his useful life was diligently employed, not only in the scientific examination and cultivation of the stores committed to his care, but also enriching the establishment with every thing either useful or curious.

Mr. Lockhead died in 1815, and was succeeded by Mr. George Caley, and his assistant Mr. M'Crae. The former gentleman had spent many years of his life in the forests of Australasia, and had brought home an abundant harvest from a field in which Brown and other celebrated travellers had already gleaned. His animals were purchased by the Linnæan Society, and are placed in the museum of that learned body.

In 1821, the Government determined to give up the garden; wearied as is supposed, with the complaints that were made, and with the annual expence, which exceeded 700*l*.

The plates which accompany this work consist of views so badly got up as to be of little use in conveying the character of the scenery, and a ground plan which shows nothing of the interior arrangement of the garden. In short, more useless or less ornamental engravings were never appended to any work.

Cobbet, William, Esq. of Kensington, the celebrated Political Writer; Author of the American Gardener, &c.: The Woodlands, or, a Treatise on Planting; describing the Trees, &c. &c. London. 8vo. No. 1.

This work proceeds on the supposition that the reader is ignorant of the practical details of preparing ground for planting, and of all the subsequent operations of sowing, rearing, &c. In so far as it goes, the operations are accurately described, and in a vigorous style; and though the work will be of most use to the novice, it may yet be read with profit by the practical planter.

Johns, William, M.D. formerly a Practitioner in Calcutta, now resident in Manchester. Practical Botany; an improved Arrangement of the Generic Characters of British Plants; with a familiar Introduction to the Linnæan System. London. Longman & Co. 1826. 12mo. pp. 156.

A neat little work, intended to facilitate the acquisition of a knowledge of the genera of British plants, to which it will probably be found an useful guide. It commences with a brief introduction to the study of botany, in which the first rudiments of the science are explained in familiar terms, and illustrated by figures. The characters of the genera are arranged in a tabular form, so that a comparative view is offered of the most important distinctions, by which they are divided. For the characters of the genera of grasses, the author states, that he is indebted to the assistance of Sir James Smith. The foot of each page is occupied by such brief remarks upon the genera as are independent of their distinctive characters.

It is to be regretted, that the author has not avoided certain errors of expression, which, although formerly introduced into respectable works, are now abandoned as unphilosophical and incorrect. As, for example, calling the grain of grasses, umbelliferæ, &c.; seed, instead of pericarpium; the involucrum of syngenesious plants common calyx; or describing the corolla of a papilionaceous plant to consist of *four* instead of *five* petals. We must also remark, that the references to the figures in illustration of the terms used in botany, are not sufficiently accurate. Thus, in plate ii. it does not appear whether the term involucre is applied to a particular form of inflorescence, or of bracteæ; it would also seem that the annulus of an Agaric, tab. 2. fig. 6. is mistaken for its volva.

The author announces his intention of preparing, in continuation of this work, a similar publication upon the species of British plants. We hope that in that work such errors as the above will be avoided.

FRANCE.

Nicolas Douette-Richardot, et rédige par Richardot, l'aîné, Juge de Paix à Verry, Département de la Marne: De la Pratique de l'Agriculture; ou Recueil, &c. 1 vol. 8vo. Paris.

This work is described by Lachevardière, who has given an analysis of it, as one of the most curious and useful which has ever been published on the art of agriculture. It is not so much a compilation from other writers, as a relation of what has been effected, either directly or indirectly, by the author himself. The work is divided into three parts: the first contains the agricultural life of the author; the second the detail of his practices, and the expence he incurred; and the third displays his system of management, and contains a challenge to whoever will accept of it, to come forward and dispute the excellence of his plans. The department of the Haute-Marne is the principal scene of his operations. There he drained and cultivated six marshes, united eighty springs, and applied the water to the irrigation of an immense tract. He next directed his attention to the mountains, and, it is said, cultivated ten of them. All this he did at a comparatively moderate expence, by employing the labourers in the winter season, when they could find little else to do. Several chapters of the work are devoted to the raising of trees, and the management of woodlands; and the Lombardy poplar and Acacia are strongly recommended. All the different species of grains, legumes, and other agricultural vegetables are successively treated of; and in the management of forests he strongly recommends the coupe entre deux terres, (cutting about a foot under the surface) as decidedly the best mode for underwood. The author refers to a great variety of correspondents in Europe, and president Jefferson in America. From Buonaparte he received a present of 1200 francs for the usefulness of his services.

Baudrillart, M. Traité Général des Eaux et Forêts, Chasses et Pêches, &c. with numerous plates. Paris. 4to.

Daniel, A. Pratique des Cours d'Eau, &c. Paris, 8vo.

Mathieu de Dombasle, C. I. A. Director of the Agricultural Establishment of Roville: Annales Agricoles de Roville. Paris. 8vo. in numbers, No. 2.

Among other articles, this number contains a translation of the treatise on the culture of wheat, by Robert Brown, Esquire, formerly of Markle near Haddington, and conductor of the Farmer's Magazine. The translator is a pupil of the Roville establishment.

Soulange Bodin, M. Fellow of the Linnæan Society of Paris, Author of some Tracts on Horticulture, and Proprietor of the Nursery Garden at Fromont, near Paris: Catalogue des Végétaux de Pleine Terre, dOrangerie, et de Serres du Jardin de Fromont, &c. pour 1826. Paris, 4to.

The species and varieties in this catalogue amount to 1400, reckoning varieties of certain flowers, as pæonies, chrysanthemums, &c.; but exclusive of fruit-trees or culinary vegetables.

GERMANY.

Weidenkeller. Archiv für Pferdekenntniss, &c.; or, Archives for the Knowledge of Horses, and other Domestic Animals. 8vo.

Leuchs Char. Volständige Anleitung zur Mästung der Thiere, &c. A complete Course of Instruction on the Art of Fattening Animals; or, a Theory of Fattening applied to the Domestic Quadrupeds which serve as Food to Man; also to Poultry, to Fish, to Crabs, to Frogs, to Turtles, to Oysters, and to Snails. Nuremb. 8vo.

This work was crowned (as the French phrase is) by the Royal Society of Sciences of Gottingen. The fundamental principle of the art of fattening is said, by Mr. Leuchs, to consist in augmenting the physical powers of the animal, and subduing those of instinct. From the character given of this work in the Bulletin Universel, it would seem well to merit translation.

ITALY, SPAIN, PORTUGAL, &c.

Atti del Real Istituto d'Incoraggiamento, &c. di Napoli. Tom. i.

In this work a short account is given of the cultivation about Torre del Grecco, which appears to consist chiefly of grapes and cotton. The grapes are raised for the press, and the principal wine produced is Lachryma Christi. Some olives are grown; and in a few places where the Manna ash grows wild, it is tapped for the juice. There is also in this volume a paper on the woad, and another on the saffron.

Acerbi, G. Delle Viti Italiane; or, Materials for the Classification and Specific Character of the Vines of Italy. Milan, 8vo.

Savi, M. Gaitano, Professor of Botany at Florence. Plantes Fourragères de la Toscane. Flor. 8vo. and Antolog. Giorn. Oct. 1825. p. 158.

In speaking of the leguminous plants cultivated in Tuscany, great complaint is made of the Cuscuta Europea, which it is supposed cannot be destroyed by any methods so effectually as by paring and burning the surface, thus destroying at once both the lucerne and the seeds of the parasite. The two best grasses for water meadows are found to be the Avena elatior and Poa pratensis; for all ordinary purposes the Lolium perenne is as much valued in Tuscany as in England. From what is said of fiorin grass, it appears to abound in the country; but not to have been subjected to cultivation. The wild carrot is said to increase the milk of cows and sheep, and to improve its flavour. The Guinea grass, the Panicum maximum, has been proposed to be introduced from the West Indies, but M. Savi considers it better to cultivate to a higher degree of perfection some of those herbage plants which are indigenous; —the number of these amount to 319 species.

HOLLAND AND THE NETHERLANDS.

Hulthem, M. Van. President. Discours prononcé à la Distribution Solemnelle des Prix de la Soc. Royale d'Agriculture et de Botanique de Gand, le 29 Juin, 1825. Gand, 8vo.

Bailey, William, Civil Engineer, London: Traité de l'Emploi de la Vapeur pour les Serres Chaudes, &c. Couronné par la Soc. des Scienc. à Harleim, Trans. Nat. &c. Harleim, vol. xiii. p. 199.

Mr. Bailey had erected a curvilinear hothouse for M. Caters-de-Wolf, near Antwerp, (*fig.* 34. p. 201.) which excited a great deal of attention in that country, and it appears he has equally distinguished himself by this essay on heating by steam.

SWEDEN.

Kongl. Svenska Landtbrüks Academiens Annaler; or, Annals of the Royal Academy of Agriculture of Sweden. Year 9. Part 1st. 8vo.

AMERICA.

Massachusett's Agricultural Repository and Journal. 7 vols. 4to.

This work contains a variety of useful papers, among which we may enumerate, Remarks on the Stable Management of Horses, in vol. vi.; on the Weeds of Arable Land, vol. iii.; among the worst of which are Berberis vulgaris, Cuscuta europea, and Brassica napus. The culture of carrots, vol. iii., and on the best time for felling timber, vol. vii. From the experience of two cultivators, it would appear that the months of May and June are to be preferred for cutting down timber trees to the months of February and March, when they are surcharged with sap.

A paper is inserted in this journal (Vol. III. p. 68.) which shows the importance of using scientific names in connection with local appellations. The writer says, the yam is cultivated in different parts of Scotland, and is found preferable to the potatoe; and he quotes Willich's Domestic Encyclopædia May it not then grow, he asks, in New England? The yam of the American writer is the West Indian plant of that name, Dioscorea sativa; that of Dr. Willich is the potatoe-yam, a variety of Solanum tuberosum.

PART III.

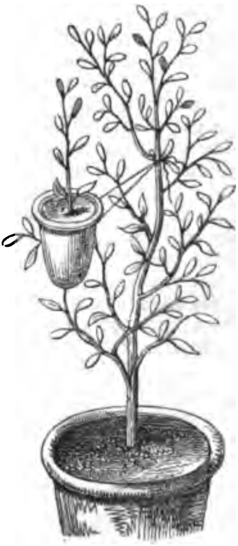
MISCELLANEOUS INTELLIGENCE.

Art. I. *Foreign Notices.*

FRANCE.

Remarkable Variety of Apple Tree. In the annals of the Linnæan Society of Paris for May 1824, M. Tillette de Clermont-Tonnere has described a remarkable apple-tree as growing at St. Valery in Normandy. This apple-tree, which they believe to be between thirty and forty years' growth, has constantly produced flowers of one sex, and consequently barren; the flower is composed of an external and internal calyx, with neither stamens nor corolla. The female organs consist of fourteen styles, with oblique stigmas. At the period of flowering it is customary for every young woman of St. Valery to go and make her apple, (d'aller faire sa pomme) by fixing a nosegay of the blossoms of any common apple-tree on a tuft of those of the one described; this is attached by a piece of ribband in such a manner that in autumn every one knows the fruit that her nosegay has been the cause of producing. It is remarked that these fruits differ among themselves in flavour, colour, and size, and that they bear some relation to those of the different hermaphrodite trees, the blossoms of which have been used in their fecundation. Grafts from this tree remain always barren, notwithstanding attempts to fecundate the blossoms artificially. Seeds sown have come up very well, but the plants are still too young to produce blossoms.

34



Multiplying Roses by Cuttings. Towards the end of July, M. Gossart rings young shoots of the same year, covering the space where the bark was taken off by a little wool. In a short time a thickened ring (une bourrelet) appears round both edges of the ring: in November he cuts off the shoot close under the upper ring, plants in light soil, keeps rather moist and shaded, and the cutting shoots freely the following spring. Another mode is, fifteen days after ringing the shoot, to lay it in the soil, or draw it through a pot of earth or tin case (cornet) (*fig.* 33.) in the Chinese manner, and it will root and grow the same season. A third mode is adopted, after the second sap, commonly called that of St. John, by slipping off young shoots of that second sap before they are longer than the little finger; plant them as cuttings in peat earth, cover them with a bell-glass, and shade them, and six out of nine will take root.

Garden of Fromont. This establishment is situated at Ris, in the department of Seine et Oise, a few miles from Paris. It was founded by M. Soulange Bodin, the proprietor, member of several societies, and author of Récit d'une Excursion Horticulturale, faite à Londres dans le mois d'Avril, 1824. It is said to contain a good general collection which are propagated and sold at a low price, as determined by a printed catalogue.

Moveable Melon Grounds. M. Soulange Bodin having changed the site of his melon-ground at Fromont, and found the soil impregnated with the liquid manure which had drained from his dung-beds to a considerable depth, proposes in future to move the site of his hot-beds from one part of the garden to another, in order to manure the whole in succession. He says, " we have folded our hot-beds as a shepherd folds his sheep, and the drainings of the dung have done in the one case, what the droppings of the sheep have in the other." Hurdles of reeds form a portable fence and shelter.—(*Bull. Univ. February*, 1825.)

M'Adam's Roads. The Paris Agricultural Society have printed a pamphlet on this subject, from a communication by Sir John Byerly, and distributed numerous copies of it among the road engineers of the different departments.

Grafting the Cedar on the Larch. The union of these two species, though practicable in theory, was never, as far as we know, actually carried into execution, till M. Le Fievre, a nurseryman at Nantes, in the west of France, tried it, and succeeded perfectly.—(*Bull. Univer.* October 1825.)

Silk-Worms. At the last sitting of the Philomathic Society at Paris, a memoir underwent discussion which had been read at the Society for the Encouragement of Industry and the Arts, the object of which was to prove that the cultivation of the mulberry-tree, and the rearing of silk-worms, might be carried on as successfully in the neighbourhood of Paris as at Lyons. In support of this opinion, the results of various experiments made at Tours and at St. Germain's near Paris were cited; and it was shown, that those results (owing, doubtless, to greater care) were superior even to the products of Piedmont itself. The author of the memoir further proves, that the countries which are the most favourable for the cultivation of the mulberry-tree are those which lie between the 42d and 48th degree of latitude.—(*Lit. Gaz.* Jan. 1826.)

Daphne laureola. In the island of Corsica, a man has been lately tried for having caused the death of several individuals by poisoning a rivulet with the branches and leaves of this plant. A law exists, dated so far back as 1669, which provides that putting laurel leaves into small rivulets, with the intent of poisoning the water, is punishable with death; and even when no bad intention is meant, with imprisonment. We may observe here, that unless the scientific name of the plant is given in the ordinance it may occasion much dispute; for on the continent as in Britain, the word laurel is applied to several species of daphne, to two species of prunus, to viburnum tinus, and to laurus nobilis. (*Bull. Univ.*)

GERMANY.

Myrica Cerifera. This plant has been cultivated for seven years, in the open ground of the Botanic Garden of Carlshrue; it then ripens its fruit, five pound of which furnish by decoction, upwards of 8 ounces of green wax.

Extraordinary Utility of the Nettle. In the weekly newspaper of the Bavarian Agricultural Society, 1823., No. 6., the nettle is said to have the following properties: 1. Eaten in sallad, it cures consumption; 2. It fattens horned cattle, whether eaten green or dried; 3. Experience has shown that it not only fattens calves, but improves their breed; 4. It is an antidote to most maladies; 5. Sheep which eat it, bring forth healthy, vigorous lambs; 6. It promotes the laying of eggs in hens; 7. It improves the fat of pigs; 8. The seeds, mixed with oats, are excellent for horses; 9. It grows all the year round, even in the coldest weather; 10. The fibres of the stem make an excellent hemp.

The Bavarian oracle might have added, that few plants force better or more rapidly, and that the tender shoots so produced, make a delicate and high-flavoured pot-herb, resembling the points of the shoots of pompion.

It is certain the nettle is much valued in Holland, where its young shoots are used as a pot-herb; its roots for dying yellow; where the horse-dealers give the seeds to horses, to make them brisk and give them a fine skin; and where considerable portions of fields are planted with it, and mown five or six times a year, as green food.

The Acorn, in forest districts, in Saxony, is successfully used to fatten sheep during the winter. (*Bav. Journ.* 1823.)

Distinguishing Fruit Trees by their Blossoms. An interesting paper on this subject will be found in the memoirs of the Pomological Society of Altenburg, vol. 1., for 1821., by M. Waitz. The characters, on which he founds his distinctions are: 1. The style; its being parted more or less deeply, smooth or velvet-like, longer or shorter than the stamens, &c.: 2. The petals; being open or shut, near or distant, &c.: 3. In their colour: 4. In the time of flowering.

Grafting Pears on Apples. Various examples of success are given of this operation by M. Hempel; and also of grafting apples on pears, though the last practice is not so successful and the plants do not last long. (*Mem. Soc. Pom. d'Altenb.* Vol. 1.)

Borage as manure. A writer in a Bavarian Weekly Journal, rcommends sowing this plant, and when it is full grown ploughing it down. The good effects of Borage as a green manure, he has proved by long experience. What renders it preferable to most other plants, for this purpose is the great quantity of soda and other salts which it contains. It may be sown in April and ploughed down in August, in time to be followed by wheat.

Water Cress. About eighteen years ago the culture of this plant was commenced in the neighbourhood of London; a few years afterwards it was begun near Paris, and it seems it has lately been successfully engaged in, in the neighbourhood of Erfurth, in Bavaria. Such is the influence of the example of England; which ought to teach us to set none, either in matters of taste or utility, that will not reflect honour on the country. The magic word London, is a passport to every fashion. In consequence of the establishment of the Horticultural Society there, by Sir Joseph Banks, and a few individuals, in 1808, similar societies have now sprung up in every part of the world. In 1819 a paper appeared in the Horticultural Society's Transactions on the culture of water-cress in the neighbourhood of London; since which this plant has become a fashionable salad, not only throughout Britain, but in France and Germany.

SWITZERLAND.

The Haymaking Machine, (Encyc. of Ag. § 2597.) has been introduced into Switzerland, and employed to ted meadow hay with perfect success. (*Bullet. d'Agric. de Genève*, 2 Ann.)

New Zealand Spinage. Tetragonia expansa. This plant has been cultivated in the neighbourhood of Lausanne, and is valued, as in England, for its abundant produce during the hottest of the summer months.

ITALY.

Pomona Italiana. A work under this title by George Gallesio was commenced in 1817. The author is known by his treatise on the Genus Citrus, and is considered by some as the Duhamel of Italy. On this work he has been employed eight years, and has spared no pains to describe exactly the best varieties of fruits cultivated in Italy, adding the synonimes of their names, and their peculiar culture. Fourteen numbers of this work, in quarto, had appeared in January 1825; and twenty-six more will complete the work.

Cultivation without Dung. M. Corvaillé of Toulouse, has published a pamphlet, in part a translation from the Italian, to show that this may be effected by burying in the soil half grown crops. He gives an example of a field in Piedmont, which was divided in two equal parts: on one of these rye, sown in November, was plowed down on the 5th of May following; at the same time the other half was well manured with stable dung. Both were sown with maize; and treated with the same care. At harvest, the produce of the crop grown on the plowed-down rye, exceeded that grown on the dung in the proportion of 425 to 500. M. Jourbert of Turin who made this experiment, thinks rye the best of all plants for plowing in; but it does not follow from the above experiment, that burying living vegetables is to be preferred to manuring, because the effects of the latter last for three or four years, while that of plowing-in growing plants is seldom perceptible on a second crop. We have no doubt however, that if the poorest land had such crops as were grown upon it plowed down when they were half arrived at maturity, for a series of years in succession, it would in the end become rich. But how many years it would require to effect this is very uncertain.

HOLLAND AND THE NETHERLANDS.

The Society of Agriculture and Botany of Ghent, seem to be making extraordinary exertions for the promotion of every department of culture. At their annual meeting in June 1825, a report was made by the secretary, of their transactions for the by-past year, from which we make the following selections. M. P Verleeuwen, junr. Commercial Florist, communicated his observations on the principal Horticultural Establishments in the neighbourhood of London. He notices the very small size of the panes of glasses employed in hot-house and hot-bed sashes; the general disuse of tan in plant-stoves, and especially those of Messrs. Loddiges; the great care and neatness displayed in every description of plant habitation, and the continual changing of the situation of pots, so as to vary the influence of the sun and light upon them according to circumstances. M. Van Mons, of Louvain, presented a description of the Colmar Dewez pear (*Gard. Mag.* p. 83.) raised by him from seed, and dedicated to M. Dewez, perpetual secretary of the Royal Academy of Sciences and Belles Lettres of Brussels. An account of the manner of gathering opium on Mount Oympus from personal inspection, and a collection of seeds from the Levant, were presented by M. de Lescluze. To this gentleman is owing the introduction to the Netherlands of the Thibet goat. Gastonia palmata was presented from the superb hot-houses of M. Caters-de-Wolf of Berchen, near Antwerp, (*fig.* 35.) Two of these hot-houses are curvilineal, and were executed by Messrs. Bailey, of London, and glazed with plate glass like those at Ashridge Park, and are reckoned the most elegant in that part of the continent. M. M. Van Cassel, Van Damme and Papelew, commercial gardeners, gave an account of some beautiful Hybrid heaths, and Azaleas which they had raised from seed procured by artificial fecundation. M. P. Cock, a seedsman communicated remarks on several pretended new sorts of culinary plants, which some of his brethren have introduced in their catalogues, but which he considers as for the greater part inferior to those in use. He presented a catalogue of his own seeds, in which was indicated

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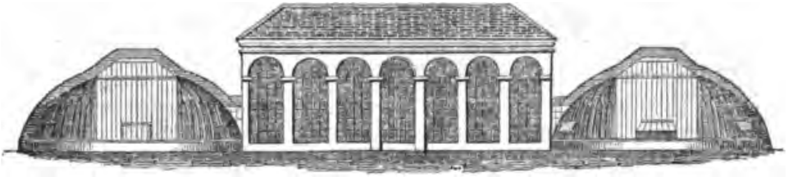


the length of time that each sort might be preserved in a fit state for germination. In 1824 the society proposed to give a gold watch, or a silver snuff-box, for the handsomest ox, heifer, and calf, that should appear in the market at Ghent on a particular day. A deputation from the society attended on that day, and gave away two gold watches for the best heifer, and the best ox; a silver snuff-box for the best calf, and a silver crook to the shepherd who produced the best lamb.

We pass over several other things to notice a medal given for the best cultivated tree nursery in the district of Ghent, and which was adjudged to M. Verschaffelt. A general circuit of the province by a commission from the society, district by district, to examine into the state of gentlemen's gardens with a view of giving a prize to the gardener who had his garden in the best state of culture and management, being a part of the society's plan, the district of Ghent was examined last summer, and a sort of journal was now read of the state of the different gardens examined. Some of the most interesting are those described by Mr. Niel in his horticultural tour; and it is gratifying to observe that the names of the gardeners are mentioned with approbation, as well as those of their masters. The commission have adjudged the medal of honour to Jean Huyze, for his superior management and high keeping of all the departments of culture, and scenes of rural beauty, in the county seat of the Comte Delafaille of Everghem. It is worthy of remark that the society examine only one district per annum, but as they make a point of never making it known what district they intend to go over, nor even the time of going over it, all the gardeners of the province are kept continually on the alert, least the commission should unexpectedly drop in upon them. What a wonderful stimulus would be given to gardening if a similar plan were adopted by the Horticultural Society of London. As a central and national society, it should embrace every county of the three kingdoms, never giving the least public notice whether they intended taking a county of Ireland or Britain. This would keep the whole on the alert, and the good would be done not so much by the honorary medal or premium given to one or two or three individuals, as by the account the commission ought to give of every garden into which they entered. This account might be published in the Transactions, in a separate pamphlet, in this Magazine, or, what would be best of all in the newspaper of the county. It is astonishing what excitement this would give to gardeners; the notice thus taken of them would be gratifying, and the humblest would feel that he was a part of the great whole. It is evident it would not be less beneficial to their employers, and to many of them not less gratifying.

A discourse is delivered at the distribution of the prizes, by the president, and afterwards published, (see p. 197.) In this pamphlet is noticed the different local societies which have sprung up since the central one of Ghent was established. Notice is taken of the excellent management of the Ghent Botanic Garden, by M. Mussche the curator, aud of the extensive donations of seeds received from the East Indies, and from Father Leandro de Sacramento, Professor of Botany in the Garden at Rio Janeiro. We are informed in it that the government of the Netherlands, wishing to encourage the taste of the inhabitants for the culture of trees, has procured from America a quantity of seeds, which they presented to the different central and local societies; to be by them distributed among their members. Most of these, the president observes, have germinated freely, and especially in the Ghent garden, where a sample of each was sown by M. Mussche. In this garden, Curculigo sumatrana, and Mantisia saltatoria, have flowered for the first time. Great improvements have been made at the Hague, a royal residence, which may be compared to our Kensington, by M. Van Donkelaer, and the president states, that considering the majesty of the old trees, which seem as if they had been sown by the hand of nature, and the magnificence of the canals, and limpidity of the waters which flow among them, this residence may be considered as one of the finest landscape gardens in Europe. Tournay, one of those cities which next to Ghent is distinguished by the zeal of its inhabitants for every thing good and useful, has lately established a botanic garden, and professorship of botany.

Heating by Steam. The society of Harlem have adjudged to Mr. W. Bailey, of Holborn, London, the prize for the best essay on this subject. The translator of the essay has added some remarks on this mode of heating, from the publication of Mr. Tredgold, " On Heating and Ventilating Public and Private Buildings," by far the best work which has yet appeared on the subject.

DENMARK.

Common Laurel. It may give a practical idea of the climate in the neighbourhood of Copenhagen, to state that the prunus lauro-cerasus requires the same protection there during the winter that the magnolia grandiflora does here. One plant lived for thirty years in the shrubbery of the celebrated park of Dronningaard, one of the finest residences in Denmark. It was looked upon as a great curiosity, but was killed with the great frost in the years 1819--20. We mention these facts on the authority of a young man (Peterson), now in this country at the expence of the Crown Prince, studying gardening. His account of Mr. Lindgaard is very interesting; though he has never been in England, he understands the English language perfectly, besides Dutch, German, and French; he is not a botanist, but a most successful culinary and fruit gardener. The government, Peterson observes, are using every means to spread the culture of the common hardy fruits in the country; and gooseberries, apples, plums, and pears, may be purchased from the national nurseries for little more than a half-penny a plant. Peterson has been some time at Kew, and is now in Lee's nursery; and having been well educated, and being endowed with habits of observation, he will return to his own country a valuable man.

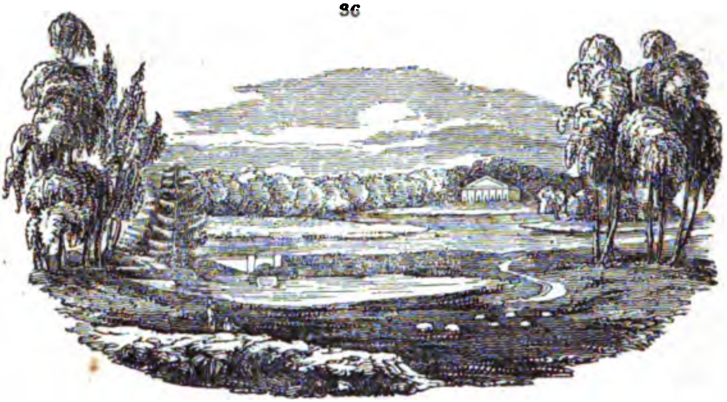
RUSSIA.

Petrovskoyé, the village and country seat of Prince Dolgorukii, is one of the most magnificent villas in respect to gardens, in the neighbourhood of Moscow. It is situated on a flat surface, somewhat diversified by natural woods, and artificial lakes. The mansion-house is not large, and, though neat enough and embellished with columns, is not at all remarkable for its architecture. Its appearance is much disfigured by the contiguity of a number of sombre wooden and brick houses, which, however, is quite *à-la-mode Russe;* for close to almost every nobleman's dwelling in the country you find a village of peasants. The view of the back façade is by far the most attractive, because it is opposite the gardens. The interior is elegantly fitted up, and the inner apartments open into a finely arranged but small flower-garden, inclosed by a low balustrade. " I may remark, *en passant*, that the Russians show their well known taste for masses of gaudy and splendid colours, even in their gardens. Every where about Moscow, as well as in the city, and in the interior of Russia, I observed immense clusters of roses, pæonies, poppies, holyhocks, sweetwilliams, tulips, jonquils, lilies, pinks, carnations, larkspurs, columbines, Indian cresses, sun-flowers, marygolds, hyacinths, bell-flowers, &c. intermixed at times with other flowers of less vivid colours, or ranged in parterres, and frequently disposed with considerable effect.

" The gravel-walks at Pentrovskoyé are made in the English style, are very broad and kept in excellent order. They wind, to a great extent, by the banks of a large and beautiful lake, (*fig.* 36.) which encircles a number of islands, and bears a small fleet of boats on its bosom — as well as through lawns and woods of luxuriant foliage. Temples, summer-houses, statues, vases, and fine orangeries diversify the scenery. In another part of the grounds cropt trees, and avenues of fantastic figures, display the complete triumph of art over nature, and afford an example the most complete in the neighbourhood of Moscow, of the geometric style of gardening.

"The Petrovskoyé gardens are open at times to the public, particularly on Sundays, and the visitors there enjoy fine promenades, which are often enlivened by music. The estate has now most likely passed for ever from the Razumovskii family; Prince Dolgorokii having paid 300,000 roubles for his purchase — a very large sum of money in the northern empire." (*Blackwood's Mag.*)

36



SWEDEN.

Ribes Jasminiflorum. In the annals of the Royal Academy of Agriculture of Sweden for 1823, a new species of currant is described by M. Agardh; it was received from North America, and is considered sufficiently hardy to endure the open air in Sweden. Its fruit is not materially different from that of the common red currant; but its flower is yellow, and as the name imports, resembles that of the common jasmine.

Lactometer. One of these invented by Sir Humphry Davey is described in the Philosophical Magazine for October 1821; another was invented about ten years ago by M. Cadet de Vaux, and which is sold in Paris by the opticians under the name of galactometer; a very simple one was invented by a gentleman in Liverpool, and one by a lady in Edinburgh, both of which are described in our Encyclopedia of Agriculture (6310); lastly, one has been invented in Sweden by M. G. Collin, and described in the Annals of the Swedish Agricultural Academy for 1823.

SPAIN.

Cochineal Insects, and Silk Worms. According to a letter lately received from Barcelona, it would seem that the experiments made on cochineal, in that neighbourhood, have hitherto been extremely successful. Notwithstanding some severe and boisterous weather experienced in the month of October and beginning of November, no accident had happened to the young insects, which were in a thriving condition. Glass-houses had been prepared for their reception, during the severe months of the winter, and from all appearances, it was thought that several new establishments of this interesting breed would be formed and stocked during the ensuing year, the late increase having been so great. If the Spaniards were to devote their attention to the cultivation of other articles, for which they have hitherto been dependant on South America, instead of spending their money on useless projects of re-conquest, they would eventually find the solid advantage of it. Their country contains mines of great value, and by working them, and improving their agriculture, they would soon make up for the revenue they have lost beyond the seas. The China breed of silkworms has also, we understand, been recently introduced into Spain, by a lady of title. (*Morn. Chron. Dec.* 14. 1825.) .

Prickly Pear and Cochineal. In December last, two members of the Economical Society of Cadiz, went to Madrid, and presented to the king a treatise just published on the cultivation of the prickly pear, and growth of cochineal; the subject at present being much in vogue in Catalonia and Andalusia. They also presented several caskets of cochineal, which the society had been able to acclimate and propagate. (*Newspapers.*)

NORTH AMERICA.

Planting in North America. A work has recently been published by M. Michaux, son of the celebrated botanist of that name, in which he deplores the destruction of the forests of Massachusetts, and predicts, as writers of the same class do in England, a dearth of wood in that part of the United States, if planting is not immediately commenced, and assiduously pursued.

Mineral Potatoe. The editor of the Darien (Georgia) paper says, "Mr. Reuben King, last week very politely presented us with a mineral potatoe, erythrina erecta, or Cherokee root, the first, it is presumed, ever found in this part of Georgia. It weighed seven pounds, two ounces and a half. It appears to be a species of the sweet potatoe, but has rather a bitter taste; hogs eat it with avidity. It is probable that, if cultivated, it would be a valuable article for fattening hogs."

Descriptive Notice of Waltham House, in the state of Massachusetts, the property of Theodore Lyman, Esquire, communicated, together with an elegant drawing, by Dr. Hosack, president of the Horticultural Society of New York.

37

This residence is situated in a very flourishing country, about nine miles from Boston. The grounds round the house consist of a lawn of a mile in length in front, upon which there are many fine oaks, English and American elms, Linden and other valuable forest trees. A deep and clear stream of water, varying in breadth, runs the whole length of the lawn, and afterwards falls into Charles river. There is an extensive park containing about forty deer, principally of the Bengal breed; to the left and rear of the house is the kitchen garden, grapery, greenhouse, hothouse, wall for fruit, &c.

Horticultural Society of New York. This society proposes to form a garden from ten to twenty acres, devoted to horticulture and botany, but more particularly to the culture of fruit-trees. They propose also to have a hall for public lectures, a library, a botanical cabinet, and a professor of botany and horticulture. (*Americ. Journ. of Sciences and Arts,* Aug. 1824.)

Agave Americana Maguey. Mex. This plant is extensively cultivated in Mexico, for the sake of its sap, from which the Mexicans distil their favourite spirit pulque. "The plants are set about five or six feet asunder, and, in favourable situations, come into bloom in about ten years, at which period the valuable liquor they produce is to be procured. As soon as the cultivator perceives the plant preparing to throw up its long flower stem, he cuts out the leaves which form its centre, and hollows it out in the shape of a bowl, at the same time removing most of the other leaves, so that the whole sap destined for their supply flows to the great stem, and is received by the bowl-shaped cavity, into which it runs with such rapidity as to require to be emptied several times a day, for a space of two months. The liquor, when collected, is placed in jars or skins; it undergoes a slight fermentation, which takes place in a few days, and it is then fit for immediate drinking. Strangers prefer it when fresh, but the natives seldom use it till it has acquired a strong taste, and a disagreeable fetid smell, denominated fuerte, when it is esteemed in high perfection. A strong spirit, called pulque brandy, is distilled from this liquor. This is also called vino mercal; and resembles Scotch whiskey in colour and flavour; but it has a little more flavour of alcohol. The leaves of the plant form the roofs of some of the Indian houses, the stalks their props and rafters, and both their fences; ropes, thread, cloth, and paper are made from it; some part of the plant is used medicinally, and the root, prepared with sugar, is converted into sweetmeats. — (*Bullock's Mexico*, p. 20, 21, 22.) Mr. Stevenson adds, that the Indians use the prickles as a substitute for needles; the leaves as a substitute for soap, and that the flower buds are eaten boiled or pickled. —(*Travels*, vol. ii. p. 9).

The plant attains a great size; some of the leaves measured ten feet long, fifteen inches wide, and eight thick; their flower-stalks were twenty feet high, and their arms, expanding like rich candelabras, clustered with yellow flowers. (*ib.* 70.) It is worthy of remark, that the flower-stem of the aloe, which we have noticed (*Gard. Mag.* No. 1. p. 89.) as having flowered last summer at the Duke of Devonshire's, was upwards of twenty-four feet in height.

Emigration. A few intelligent gardeners from the north of our island would soon acquire fortunes in the neighbourhood of Mexico, and be the means of increasing the blessings already enjoyed by the people in those delightful regions. In such a country and climate the finest productions of every part of the globe might be produced, but the whole is left to the care of untutored Indians, whose horticultural knowledge is indeed very limited.—(*Bull. Mex.* vol. i. p. 192.)

SOUTH AMERICA.

Chilian Flower Garden. When Captain Hall was at Santiago, he visited a lady in the evening, who expressed great regret, owing to its being dark, that she could not show him her garden, which, she said, was "the pride of her life." In a few days afterwards he paid her a visit in the day time, when the good lady was delighted, and led the way with great glee to her favourite spot "It certainly," Captain Hall observes, "was a brilliant spectacle; for in these climates where nature does so much, the least assistance multiplies the effect in a manner of which, in cold regions, we have no conception. But our good dame, who thought of nothing less than letting nature have her course, had planted her flowers, and cut her walks and borders into the form of beasts, birds, and fishes; not only had she displayed the figures of the animals in a sort of relief, by raising and depressing the soil, but she had attended minutely to the appropriate colours of each, by the careful distribution of the proper flowers; and, to do her justice, the spot looked more like a menagerie than a garden!—(*Capt. Hall's Chili, Peru, &c.* vol. i. p. 175.)

ASIA.

Tarts of Rose-leaves. A writer in the New Monthly Magazine observes that one of the best tarts he ever tasted "was composed of nothing but rose-leaves." What variety of rose it is whose leaves alone compose a tart, he does not mention. He adds, that the most exquisite conserves are made in the neighbourhood of Damascus, amongst which are dried cakes of roses. The celebrated plain of roses from which the tarts, the cakes, and the *attar* is obtained, is about three miles from the town; it is a part of the great plain of Syria, and its entire area is thickly planted with rose-trees, which are cultivated, and irrigated with great care. — (*New Monthly Mag.* No. 79. p. 434.)

Agricultural Society of Calcutta. At a meeting of this Society, held on the 22d March, a variety of seeds were presented, which were sent from Cachemire and Ladak, by M. Moorcroft. Among these seeds are mentioned the wild pear and apple, apricot, melon, marsh onion, buck wheat, lucerne, saffron, and the Prangos hog plant. Among the books presented was a Treatise on Agriculture for Nepal, by Raja Gunshan Shingh. — (*Asiat. Jour.* Oct. 1825.)

AUSTRALASIA.

Cotton. Some very fine specimens, grown in the parallel of 32° south latitude, has been sent to Glasgow for manufacture. There can be no doubt that in a short time New Holland will afford an immense supply of this article.

Van Diemen's Land. The following very interesting letter on the Horticulture of this colony has been communicated to us by Mr. Joseph Knight, F.H.S. Nurseryman, Kings-road, Little Chelsea, to whom it is addressed.

Forcett, near Hobart's Town, Van Diemen's Land.
4th September, 1825.

Sir,

The good wishes you expressed for Van Diemen's Land, in your communications with Mr. Wedge, a young gentleman in the Surveyor's department in this colony, induces me to trouble you with this: I hope my intention will be my excuse, and that any further apology will be unnecessary.

I must first thank you for the very liberal supply of fruit trees, with which you were so kind as to present him, on his leaving England, in the ship Heroine, the beginning of last year, and though they may be considered his sole property, yet they will soon get distributed through the Island; they arrived at a very good time of the year, and were planted in a gentleman's garden, near Hobart Town, where many have recovered the effects of so long a voyage; those that suffered the most were the stone fruits.

Thinking you would be gratified with a specimen of the fruits of this country, but as the very great distance renders it impossible to send them, I have taking the liberty of forwarding figures of a few of the different kinds of apples grown in my garden: could I flatter myself, that any further description of them from me would be worth your perusal, I certainly would attempt it; I shall, therefore, merely state that they were all reared from pips in this colony, the oldest plant not being more than twelve or fourteen years. Nos. , and . are coloured just as they came off the tree, and are good representations. No. . is the same as No. . but was gathered three or four weeks before it was painted. It may be gratifying to know that No. . is a very late apple, the buds not showing the least influence of the Spring, when all other kinds are in full bloom; it was raised by A. W. H. Humphrey, Esq. our superintendant of police, a gentleman much attached to Horticulture: the others were reared by a very industrious farmer, of the name of Stanfield; probably none more ignorant of Horticulture than he is; he sows the pips, and gets trees, which, if they bear fruit, good or bad, is the same to him. His son has planted a considerable orchard (about six acres) and has taken the pains to graft the best kind of apples he could procure. I have also forwarded by this conveyance half a dozen trees in a box, viz. two of No. . two of No. . and two of a seedling apple, which was reared by Mr. Gunning, a neighbour of mine; it has borne only twice, and I unfortunately could not get one to have it painted; it is a handsome conical shaped fruit, brownish green, and above the medium size, something in the shape like No. . We have twelve or fifteen kinds of seedling apples, of very *tolerable* sorts, and scores that are worth nothing. I have raised several, but not one I can call decent. Another year I may be able to send you a greater variety, and better specimens, as the last summer was so excessively hot and dry, the fruit did not swell to its proper size.

You will probably expect to have a description of the state of Horticulture in Van Diemen's Land, but when I tell you, that I do not know one scientific gardener in all our importations (*to the credit of the craft*), you must think we make but a poor show. The gardener which I have is by trade a Leicestershire stocking weaver, but a very clever fellow with a spade or a hoe, and can observe any directions I may give him. All plants of the brassica tribe are grown in great perfection, as are all root crops. Peas and kidney beans are very prolific, but common garden beans are very bad bearers: the white blossomed bean is the best, but that hardly worth cultivating. Onions grow well, particularly the potatoe onion, and in this climate we can rear any quantity of onion seed, which cannot be done in New South Wales. We want varieties, the Globe and the Strasburg. It is now upwards of twenty-four years since I saw an asparagus bed in England, and not being then much accustomed to a garden, my recollection of one may not be very good, but I cannot conceive any thing of the kind can be superior to what we can show here. I durst almost challenge Mr. Judd. Sea kale grows very luxuriantly here, but is too troublesome (we have no potteries), and it does not precede the asparagus above a week. Of fruits, we have apples, pears (only two kinds), quinces, gooseberries a few varieties, currants, raspberries, strawberries; these last do not bear well, all the others most abundantly; grapes bear well, and ripen tolerably in good situations, also peaches and nectarines; of the last we have only one kind: I certainly never saw finer in New South Wales; they are very large, and deep blood red; only one plum, a kind of green gage; cherries, two kinds, the small Kentish, and May duke; they bear most abundantly. We have imported no apricots until the last year or two, when Mr. Frazer, the colonial botanist at Sydney, sent me a few scions of the Moor Park, but there are several bearing trees in the colony, reared from stones: I do not think they are worth much, but might be improved by proper culture. I do not know whether you will give credit to what I am about to relate, but the farmer who reared the apples positively asserts, that after eating a peach in his garden, he immediately planted the stone, which has produced a nectarine; I shall ascertain the fact, if possible, the next summer: from what I read in Loudon's Encyclopædia of Gardening, I should conceive it not impossible.

It gives me great pleasure in having an opportunity, direct from this port, of sending this, and should you consider it worth your perusal and acceptance, I shall be still more gratified, and in return, may I request you to procure me a couple of sacks of the best kind of potatoes, for a general crop, which Captain Carnes, of the ship Cumberland, will bring out to me. I should have requessed him to execute this commission, but he might be imposed on by an old worn-out sort. Our potatoes are all gone that were good for any thing, and though we have reared a good many from seed, yet we have not what I call a good kind; they may improve another year.

I hardly dare say how acceptable a few fruit trees would be, particularly apples, pears, cherries, and plums. The New Town pippin, and all the apples and cherries of your own rearing, I am sure, would thrive and ripen well in this climate. I am no great florist, but should like to see a moss rose, and a few varieties of roses, a woodbine, southernwood and wormwood; and the primrose, cowslip, polyanthus, and auricula, would be most pleasing to a person so long from England as I have been.

The common crab for procuring good stocks (I am looking a long way forward), also the Siberian and French crabs, would be very acceptable. I have requested Captain Carnes to procure me a few seeds of culinary vegetables, from the most celebrated sesdsman in London, and have directed him to wrap them up in common brown paper, and bring them in his trunk with his clothes, or any chest standing in a cabin, that will be opened two or three times in a week, by which they will get aired. I have known persons arrive in this colony, who have taken great pains to have seeds soldered up in tin cases, or packed in paper cases, covered with three or four coats of varnish, which on their arrival, were entirely useless, though to all appearance perfectly good; while a few seeds brought casually in a trunk in brown paper, were as good as when packed in England; the reason is very obvious; those in tin cases, &c. were packed in some other large package, and stowed in the ship's hold, where it is probable, it was not again seen till the end of the voyage; the consequence was, that the heat of the air in the hold, in crossing the Torrid Zone, was so great as to destroy the vegetative principle of the seeds. It is impossible to conceive the oppressive heat of the stagnant air in a ship's hold, when under the Equator, except by those who have experienced it. A few years ago, the ship Lusitania brought here two hogshead of garden and grass seeds, which were perfectly air-tight; they were readily purchased, as they had such a fine dry appearance, and the ship had experienced a very short passage; not one seed in 10,000 grew, while a few ounces of different seeds brought by a passenger from the same seedsman were perfectly good. I received some seeds from a friend in Kent, of the golden Canterbury hop, which he informs me was tried previous to his writing to me, to prove its goodness, of which he assures me, he sealed it tight in a bottle, and I cannot get one to vegetate, though sown on an old melon bed, under the lights. In another instance, a friend of mine, anxious to bring seeds safe, purchased several sets of wine decanters with ground glass stoppers, in which he packed his seeds; there was not one grew. I conceive the air in the bottles had got stagnant and putrid; I may probably be wrong in assigning the cause, but such was the effect. This may be no information to you, but I think it would be well to recommend to persons taking seeds from England to the southern hemisphere, to pack them in the simple method I have described. If taken to Canada, or a climate north of England, it would probably be well to pack them tight to prevent damps. I beg leave to subscribe myself.

Sir,
Your most obedient,
Humble servant,
James Gordon.

Joseph Knight, Esq.
King's Road, Chelsea.

From the Hobart's Town Gazette. A principal part of our colonial politics is, the enormous fluctuation in the price of wheat. We have viewed, with no small degree of alarm, the late excessive price of this necessary article of consumption. We have no want of butcher's meat at a moderate price. The late alteration in the duties of spirits have so affected the distilleries that a great quantity of barley is now in the country, and a portion of that, mixed with the wheat, makes wholesome and even palatable bread — and our climate is at all times propitious to the growth of vegetables. But the late high price induces many to hoard up grain, in expectation of a still higher price. We have received some small supplies from Sydney, but that colony can never grow enough for its own consumption. The farmers there have, it is true, many resources which we have not; — they have maize, in particular; fruits and vegetables in great abundance; and the season of harvest commences there at a much earlier period than with us. Notwithstanding all this, however, Van Diemen's Land must always be the granary of these colonies, for their wheat is of a much inferior quality, and so infected with the weevil, and other causes, that it can never be preserved through the circuit of one whole year They may cultivate the vine, the cotton plant, and the sugar cane, to what extent they please, still they must, from time to time, look to us to supply them with their bread and meat.

Art. II. *Domestic Notices.*

ENGLAND.

Tredgar Prize Show. Mr. Miller, the nursery-man of Bristol, offered a prize of a silver cup for the largest pine apple, grown in the counties of Monmouth, Glouscester, Glamorgan, or Brecon. It was gained by the gardener of Sir Charles Morgan, Bart. At this meeting, premiums were given to cottagers for the best turkies, geese, ducks, aud fowls, and for the greatest number of hives of bees.

Fonthill Abey. John Bennet, Esq. M. P. for Wilts, it is said, has lately purchased of Mr. Farquhar, Fonthill Abbey, together with four hundred acres of flower-garden and pleasure ground in which the rarest and most beautiful of the American trees and shrubs flourish in all the profusion and luxuriance of their native soil. (*Newsp. Dec.*).

Early White Stone Turnip. A gentleman in the neighbourhood of Knaresborough reaped a good crop of oats in the early part of August; on the 13th, he sowed the field with the early white stone turnip, which are now a fine crop, weighing on an average 10 tons per acre. He strongly recommends them as a profitable turnip; they may be sown in July, and appear to stand the frost well; they have only a light top with a small root. (*Farmer's Journal*, 6th *Feb.* 1826.)

Chamois Goat, Antilope Rupicapra. A male and female of this elegant animal have recently been imported, and are about to be introduced into the park at Windsor for the purpose of breeding. It is a native of the Alps of Tyrol, and commonly called the chamois goat.

Packing and Preserving Seeds. Mr. Curator Anderson, of the Chelsea Botanic Garden, says, he received about a year ago, from the East Indies, 24 seeds or nuts of corypha taliera; 12 of them were carefully wrapped up in paper, not one of which germinated; and 12 of them were bedded in powdered charcoal, every one of which grew freely.

To preserve Pinks, Carnations, and other Plants, from being eaten by Hares or Rabbits. Surround the plants by a cord or pack-thread smeared with tar, and at such a distance from the ground as that the animals cannot get under it, without the tar coming in contact with their down. A proof of the efficacy of this practice is, that the beds of pinks &c. in Lee's nursery, and other commercial gardens about town, liable to the depredations of these quadrupeds, are effectually preserved in this way.

Yellow Field Turnip. A variety of this turnip, partaking by fecundation of the qualities of the ruta baga, with red leaves and a conical top or neck, was raised about three years ago by Mr. Gibbs, the agricultural seedsman, and for field culture is likely to supersede the old varieties of the yellow turnip. Unfortunately there is rather a scarcity of seed of this variety for the ensuing season.

Sorts of Wheat. The variety known at the Cape of Good Hope, as the solid stalked wheat, and which is said to resist the mildew there better than any other, differs from the common winter wheat of Europe, chiefly in the roundness of the grain, whieh resembles pearl barley: it has been cultivated in England, but found to degnerate into the common wheat in three years. The perennial wheat of the West Indies is the triticum erectum, an evergreen perennial both there and here, which has weak straw, small grains, and produces flour of indifferent quality. In Britain its seeds seldom grow much larger than couch grass, triticum repens.

Gooseberry Shows. "The Lancaster gooseberry society has fixed to weigh in future with avoirdupois ounces, which they have divided into 20 pts. which they will call pennyweights. By this alteration, a berry that weighs 20 dwt. troy will weigh 23 dwts. avoirdupois, and 10 dwts. troy will be equal to 11 avoir. and rise in proportion to the 20. The insertion of this in your magazine, may be of interest to many of your readers, as it has been supposed that the goldsmith's ounce was the lighest; but this is not the case; and as there seems to be a doubt which weight is generally used for weighing berries in different towns, this hint may be the means of ascertaining the facts through the medium of the Gardener's Magazine." (*Com. by M. Saul, Sulyard Street, Lancaster, 7th Feb.* 1826.)

Ross's Camellia Gloriosa. A fine specimen of this beautiful variety is in bloom at the Eden Nursery, Stoke Newington, now in possession of Mr. Masters. It was raised from the seed of the Warratah, to which it bears some affinity, but is sufficiently separated from it by a double and sometimes treble row of outer petals; the centre well filled, of a lighter and brighter colour than its parent. The leaves are remarkable for their size and dark green colour. In the same nursery are two single Camellas of great merit; one of them of a rose colour, and very large, with small stamina; the other very large, with bold golden stamina, half of which are spatulate.

Pruning Vines and denuding them of their Leaves in September. A correspondent who signs Philalethes, says, If you will have the goodness to refer to Hales' Vegetable Statics, vol. i. page 373. you will find the following passage, which shows that the practice of pruning the vine in September, described in your last number by Mr. Salisbury, was perfectly well known to gardeners in the neighbourhood of London, a hundred years ago.

" And the reasonableness of this practice is further confirmed by the experience of Mr. Palmer, a curious gentleman of Chelsea, who has found that by pruning his vines, and pulling all the leaves off them in September, as soon as the fruit was off, they have borne greater plenty of grapes than other vines, particularly in the year 1736, when by reason of the extreme wetness and coldness of the preceding summer, the unripe shoots produced generally very little fruit.

Oriental Garden, Brighton. It is said three palms have been bought from Messrs. Loddiges for this establishment, at 500 guineas each; if so, we rejoice to think that this magnificent garden scheme will be carried into execution. See Gard. Mag. page 89.

ART. III. *Horticultural Society and Garden.*

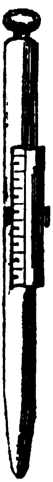
Horticultural Society. December 20th. The articles exhibited were different varieties of red and yellow beet, Spanish, and red skinned chardoons, a Montserrat pine apple, a few apples and pears, and a few heaths and other green-house plants, from Messrs. Chandler and Buckingham. The pine-apple, which was grown in the neighbourhood of Manchester, and which some gardeners present called the Black Jamaica, had an excellent flavour. The best apple tasted was the golden pippin, and the best pear the colmar. A paper was read on the cultivation of the Guernsey lily, by Mr. Knight, the president.

January 3d. Several varieties of winter radishes and some flowers of Astrapæa Wallichii, Tussilago fragrans, and a plant of Orchis longibracteata, were exhibited from the garden of the society. An envile and ripley queen pine-apple, and some apples and pears, were tasted; and a paper read on the rare plants which had flowered in the garden from March 1824, to March 1825, by Mr. John Lindley.

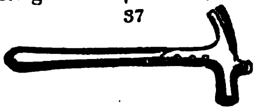
January 17th. The chief articles produced at this day's meeting were some chiccory and rhubarb stalks forced in what the society call their Russian-house, viz. a back shed or opaque case, heated by a flue, and which will also grow mushrooms if required. Ripened fruits of cactus speciosus, and speciosissima were exhibited from Comte de Vandes's garden, Bayswater. They were about the size and shape of small gooseberries; those of speciosissima, rather the largest, and of a brownish green colour; those of the other somewhat flattened, and of a shining purple. Those of cactus speciosa had remained upon the plant for nearly two years, the latter for nine months. Two pine apples were tasted, and some good colmar pears, and golden pippin apples; some packets of seeds were distributed, including the sickle pea, tetragonia expansa, double poppy and wall-flower. Among the books presented were the Memoires de l'Academie Imperiale des Sciences de St. Petersburg, the gift of the late emperor. The papers read, were remarks on temperature as applied to vegetation, by Mr. Arch. Gorrie; a description of some new chrysanthemums, by the secretary; and of a sympathetic movement for opening ventilators of hot-houses, by Mr. Young of Pitfour, Perthshire.

February 7th. The secretary, after enumerating the subjects of the former meeting, and the various articles sent to the society, proceeded to read several communications; one of which was from Mr. Stewart Murray, curator of the botanic garden at Glasgow, on the cultivation of hardy American orchideous plants; one by Joseph Sabine, Esq. on forcing of figs in the gardens of Harewood House; and another on transplanting of the carrot and similar roots, by the president, accompanied with a plan, was a communication on the construction of an Aquarium, suited to Chinese and other tender water plants, by Joseph Clare, Esq. There was read a meteorological report from observations made at the society's garden, by Mr. Lindley, together with some useful information on the comparative properties of straight and curvilinear roofs to hot-houses, and on the difference of heat yielded by flues covered with slate, and of those covered with common tile. The things exhibited, were a variety of apples and pears, a distorted branch of an apple tree, full of woody excrescences, produced by the American blight, and some fine stalks of forced Siberian rhubarb; cuttings of the yellow berried mountain-ash; seeds of the Guernsey parsnip, red horse carrot, white turnip radish, onion, and cabbage lettuce were distributed.

38



February 21st. The communications read at this day's meeting, were the following; on protecting the blossom of wall-trees from frost in spring, and their fruit from wasps in autumn, by Mr. John, Gardener, of Ballindean; description of a stove for forcing of melons and cucumbers, accompanied with an explanatory plan by Mr. John Haythorn; physiological experiments on vines, by Mr. Thompson, Gardener at Welbeck; and one from Mr. Smith, Gardener at Hopton-house, describing the rapid growth of three cedars of Lebanon at that place. The things exhibited were, a thermometer for ascertaining the heat of bark-beds in stoves, (*fig.* 38.) It consisted of a tube and scale inclosed in a hollow cylinder perforated to admit the heat, with a small door or opening in the side, for the inspecting the temperature; and pointed at the lower extremity, to be the more readily thrust into the tan or earth; and a garden hammer, with a stud protruding from the head in the direction of the handle, to serve as a fulcrum in drawing nails from wall trees. (*fig.* 37.)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A double white seedling camellia was exhibited, with some succory, cucumbers, apples and pears; among the last were some fine Uvedale's St. Germains. There were some large shalots, said to be of superior quality, sent by Captain Owen from the Cape of Good Hope, distributed; and some seeds of the Altringham carrot, rose coloured turnip radish, early frame scarlet radish, and Wellington pea. Notice was given that grafts of certain sorts of apples, pears, plums, &c. designated in a list, might be had upon application at the house of the society.

March 7th. The communications read by the Secretary were; one from Mr. Stewart, Gardener to Sir Robert Preston, Bart. Valleyfield, descriptive of a vegetable pit; and one from Mr. Acon, Gardener to the Earl of Surry, on training the vine; and another describing the method of cultivating the celariac as practised in Germany and Denmark. The things exhibited were some apples and pears, some sea-kale, and as a novelty, a few blanched shoots of the symphytum officinale, to be used as sea-kale or asparagus. But that which attracted most attention, was a beautiful variety of the primula sinensis, with white flowers, raised by the Gardener of Mr. Delafield, of Kensington.

March 21st. Various papers were read, on asparagus, blacking of garden walls, &c. The articles exhibited were seven varieties of camellia japonica; three sorts of tart rhubarb; and some very good sea-cale from the garden of the society. A ripe loquat from the stove of Captain Carmichael at Twickenham, and some pears, apples, and strawberries. A blanching-pot for sea-cale, differing from a common flower-pòt, in having a knob, instead of the hole, to serve as a handle, and a perforation under the knob to admit air to the plant. There was a blanching-pot on a similar plan for endive; of course a great deal smaller than the other. A spike of ripe fruit of the sagus ruffii, upwards of six feet long, attracted considerable attention; it was sent by Charles Telfair, Esq. of the Mauritius.

Horticultural Society's Garden. February 16th. The severe frost of January, during which the thermometer here was as low as 13°, has killed some of the exotics, which had stood the two preceding winters uninjured. We allude more particularly to some species of Eucalyptus, and Metrosideros, trees of New South Wales and Van Diemens Land, which were trained against a south wall, and which from their being said (by Evans and others) to constitute the principal timber trees of that country, we fully expected would have been acclimated here. We still think the thing very probable: but we have our doubts whether training against a wall be the best mode for acclimating trees: it is certain the trunk and main branches of a tree so trained, are more exposed to the cold than if the plant had been a standard, and clothed from the ground upwards with side branches furnished with abundance of spray. Perhaps if a clump of eucalyptus were planted on very dry soil, and in a situation well sheltered from the north and east, they might stand our winters; their tops might be killed down a few inches; but the main body of the plants, we think, would be safe. Planting such exotics in a thick natural coppice wood, would also be a good place of trial; for every one, on entering a coppice wood in the winter season from an open field, must have felt a striking difference in the temperature, as well as seen there several plants, as the snow drop, violet, cowslip, &c. in flower before they had appeared in adjoining gardens. It is also a fact, that certain rare plants which have their habitation in woods, have disappeared entirely when the wood has been cut down, and re-appeared when it has grown up again, e. g. corallorhiza innata. One reason why the American plants grow so luxuriantly at Fonthill Abbey is, that they were introduced among the native underwoods, interspersed among bushes of hazel, dog-wood, &c. and sheltered by firs, oaks, and other timber trees. A shrubbery, therefore, we should consider a very good situation for acclimating exotics, whether trees or herbs, and more especially if the soil was dry, and the shrubs chiefly deciduous; for it should not be forgotten that a coppice wood of evergreens is always colder than one of deciduous bushes, owing to the leaves presenting a greater surface for evaporation. Groves of evergreen trees, on the other hand, especially of the pine and fir tribe, present a warmer climate beneath them than groves of deciduous trees, because the former, from the closer texture of their exterior surface, reflect back more completely the heat radiated from the ground below. But where there are abundance of plants of any tree or shrub to be acclimated, we should prefer to all other modes that of planting each sort by itself in a compact clump, on dry soil, and in a sheltered situation open to the south and west. We have known the common myrtle escape in this way in the same garden in which plants trained against a south wall had been killed.

That elegant evergreen shrub, the photinia serrulata, and also the eriobotrya japonica, both trained, have stood uninjured without any protection; so has the single red and double white camellia as bushes, in Lee's nursery. We have little doubt of these plants, as well as some other varieties of camellia, becoming in a few years common inhabitants of our shrubberies, and no such additions will have been made to them since the æra of Magnolia and Rhododendron.

The plants in the botanic stoves are in excellent condition; some amaryllises, pancratiums, and different species of that new and valuable family of plants, the epiphytical orchideæ, together with a curious Chinese plant aspidistra, with flowers not unlike those of asarum, are in flower. Above a dozen varieties of camellia are beginning to expand their blossoms, among which is a fine specimen of C. fimbriata and one of hexangularis; and in the botanic pits and frames, that invaluable ornament, the primula sinensis is in the greatest luxuriance. The history of the introduction of this plant shows how little attention was paid to searching for any new or interesting plant in China till very lately. The first plant of P. sinensis was brought home by Captain Raives, of Bromley, in 1820. Its value as an ornament was soon ascertained, and in consequence, some captains who sailed shortly afterwards, brought home abundance of seeds. Had the same desire for finding out and bringing home Chinese plants existed a century ago, there can be no doubt this plant and its seeds were as abundant then as now.

In the forcing-houses, a great many varieties of peaches and nectarines, and some cherries and plums in pots, are coming into flower. On the back-wall trellis of one of these houses, there are several standard and dwarf peaches, with different kinds budded on each; by this means a great variety of sorts may be proved in one season. In another house different varieties of strawberries are coming into blossom, and against the back wall various figs in pots have already made shoots, which are stopped at the third, fourth, or fifth leaf, agreeably to Mr. Knight's ingenious practice (*Hort. Trans.* vol. iii. p. 459.). The fruit on some of these figs has attained its full size, and according to the plan of always stopping the young shoots as they appear at the fourth or fifth joint, three crops will have been ripened by Christmas next.

The plants are in large sized pots, and are occasionally watered with liquid manure. A new house for fruiting pines has been erected since our last notice of this garden; it comes very near to that description of fruiting house in use in the royal gardens, Kensington, (*Encyc. of Gard. figs.* 435, 436; *and, The different modes of cultivating the pine apple, &c.* in loco); but we refrain at present from engraving the plan, lest it should be the intention of the society to publish it themselves. The pine plants in this house, chiefly Queen's and Envilles, were equal, if not superior, to any in the neighbourhood of London, and do the highest credit to Mr. Monro, the head gardener. The only pines we have seen which we consider on a par with them, are those of Mr. Plimley at Kensington, and Mr. Shannon at Gunnersbury; but which of the three are the most meritorious, having seen them at different periods, it is out of our power to determine. On a hot-bed we observed a number of pots of peas for transplanting, which had six or eight leaves each; on this subject we request our readers' attention to the mode described by Mr. Bishop, at the end of his paper on his own pea.

In a back shed heated by a flue and denominated the mushroom-house, are several beds of mushrooms raised in Oldacre's manner, also pots of rhubarb and succory, being forced and blanched at the same time.

In the kitchen garden and orchard, most of the fruit trees and shrubs have received their winter pruning, and the operation on the whole seemed to have been performed on just principles. The characteristic, in every description of tree, seemed to be that of cutting in or shortening, with a view to produce fruit bearing spurs, and young wood to be given away as grafts. Some might be disposed to question whether this mode of cutting has not been too indiscriminately applied. It is certain, for instance, that some sorts of pears, as the vergoulese and some varieties of colmar, bear fully as well on the preceding year's wood as on spurs; and that every sort of apple will not bear cutting in so well as the codlings. But we merely throw out this hint as a caution in the application of what we consider an excellent practice. The pear trees trained en-quenouille are certainly superior to any thing of the kind to be seen in this country; and it must be of importance to a cultivator to have ocular demonstration that he can form a fruit tree into a cone of a foot and half in diameter at the base, and of any height, and have it covered with fruit from top to bottom. The pear and apple are particularly calculated for this mode of training; the advantages of which are a saving of room, greater fruitfulness, the regular exposure of all the fruit to the light and air, and consequently high flavor. From the small space occupied by each tree, a great variety of sorts may be introduced in a small garden, and that without impeding the herbaceous crops beneath. In flower borders and shrubberies they are very ornamental, and also as single objects on lawns. This department of the garden has for two or three years past been under the management of Mr. Barnet, the young man who has so ably described the different sorts of strawberries in a recent part of the transactions, and does him the highest credit. We understand he has just been appointed to the situation of head gardener to Caledonian Horticultural Society, and though we are glad of this for his sake, and think the Caledonian Society have made a judicious choice, yet we cannot help regretting it on the part of the society here; for we consider it will be very difficult to obtain a person so well qualified for describing the hardy fruits as he would have been, after operating two or three years longer among them. To do this properly, comparing one fruit with another is but one part of the business, and that on which we fear much less reliance is to be placed than is generally imagined. The blossoms of fruit-trees vary as much as the fruits, more especially those of the apple and the peach; the leaves also differ, especially in the apple; and the buds, the young shoots, the mode of growth, and size, habit, and form of the tree, have all something peculiar in each particular variety. For this reason we think that whoever is to make out a catalogue and settle the nomenclature of the hardy fruits of the country, ought to have been among them and devoted to them, for a series of years together.

In the flower garden we observed a spring-flowering variety of colchicum expanded, crocus susianus, vernus, and striatus, with those beautiful plants bulbocodium vernum, eranthis hyemalis, and erythronium dens canis, with Helliborus niger, and some hepaticas, in flower.

In the arboretum, cydonia japonica was coming into flower in the open shrubbery; and chimonanthus fragrans was fully expanded against a south wall, and that rare and beautiful shrub berberis fascicularis has stood in the open garden protected by a tabernacle of reeds. The seeds of this evergreen shrub were sent from South America to Mr. Lambert, who only raised two plants from them in his own garden at Boyton, in 1819; one was presented to the society, and the other was procured by Mr. Mackay, of the Clapton and Belgrave nurseries, who has succeeded in its propagation. It is a native of California, grows 10 feet high, the leaves are like those of the common ash, the flowers yellow and large, and the berries oval shaped and purple. Besides the above plant, it is doubtful if there are any others in Europe. It was our intention in the present number to have given a plan of this arboretum; but on applying to the council for permission, we were informed that the society intended publishing it themselves, and we therefore bow to their decision.

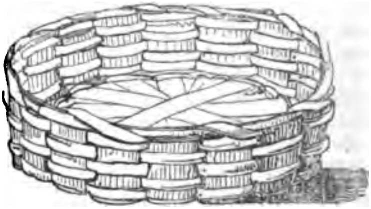
Art. IV. *Covent Garden Market.*

Jan. 3. All out of door vegetables in abundance, and no scarcity of the fruits of the season.

Jan. 17. Owing to the severity of the weather, bröccoli is somewhat injured. Forced sea-cale, asparagus, mushrooms, rhubarb, and kidney beans in reasonable abundance. Russet apples and warden pears for baking. For the table, the ribston and golden pippens, and nonpareil apples, &c. St. Germain, colmar, winter beurré, bonchretien, and chamontelle pears. Pine-apples are not scarce; but cucumbers and strawberries have not yet made their appearance. The ornamental plants are chiefly box, holly, laurustinus, pines, firs, and similar evergreens; a few white violets, fading chrysanthemums, and dried everlastings.

Feb. 7. Broccoli much injured; the best 2*s*. per head. Spinage rather scarce; all common vegetables plenty, but looking up in price. Asparagus 10*s*. and 12*s*. per hundred; inferior 4*s*. and 5*s*. Sea cale from 3*s*. to 7*s*. per the measure called a punnet (*fig*. 40.). Apples 16*s*. to 20*s*. per bushel, for the table; 8*s*. to 10*s*. for baking. Pears scarce and dear. Various spring flowers, partially forced, as crocuses, snowdrops, violets, &c. have made their appearance; besides forced bulbs, as hyacinthus narcissus, Van Thol tulips, &c.

40



Feb. 21. Much the same as before; forced articles, including potatoes, rather more abundant. Cucumbers 21*s*. per brace; asparagus 4*s*. to 8*s*. per hundred. Some Roseberry strawberries; and forced roses, rhododendrons, and lilacs.

March 7. A good supply, and most articles cheaper. Cucumbers 10*s*. per brace. Pears very scarce.

March 21. Common vegetables abundant, especially turnip-tops, Broccoli cheaper. Colmar pears 1*l*. 1*s*. per dozen, and thought cheap. Some forced Keen's seedling, and Roseberry strawberries, at 3*s*. per oz. Black Hamburgh and white sweet water grapes 2*l*. 2*s*. and upwards per lb. No scarcity of forced flowers.

ART. V. *Scotland.*

Dumfries and Galloway Horticultural Society. This society was established in 1812, chiefly through the exertions of W. Grierson, Esq. now the secretary. It was liberally supported by the proprietors and gardeners of the two counties from which it takes its name; and the number of members soon amounted to upwards of a hundred. We have been favoured with a copy of the "rules and regulations" of the society, with the list of "prizes" for 1826, and an explanatory letter by Mr. Grierson, who has also obligingly offered to send accounts of the general meetings, which are held every September, for insertion in the Gardener's Magazine.

The society consists of three descriptions of members; ordinary, extraordinary, and honorary. The ordinary consist of practical gardeners, who pay a subscription of five shillings annually; the extraordinary, of proprietors and amateurs, who pay 10*s.* 6*d.* annually; the honorary members must not be connected with the counties of Dumfries or Galloway. The two first classes of members, on admisson, pay one year's subscription, "as entry money towards a fund for purchasing useful practical books for the accommodation of the members."

"The object of the institution is to promote and improve the cultivation of the best kinds of fruits, of the most choice sorts of flowers, and of those vegetables which are most useful in the kitchen. For this purpose, a certain number of prize medals, or sums of money, shall be bestowed annually on such operative gardeners, or others, as shall be declared by proper judges to be entitled to the preference. Useful communications shall also be received, either from amateurs, or from practical gardeners, on any topic connected with horticulture, though not drawn up on the suggestion of the society; and such communications shall be read at the quarterly meetings."

The objects for which prizes are to be given, are annually printed upon half sheets of paper, which may thus be sent by post as single letters to all the members. Forty-eight prizes are offered for 1826. The value of the prizes for each article is to be determined at the time of ascertaining its comparative merits.

"The result of our labours," Mr. Grierson observes in his letter, "has amply proved the great advantage of the society, by the introduction of many new kinds of flowers, fruits, and vegetables, unknown in this quarter before, and by the improved culture of those which we had. Besides, it has roused the spirit of the gardeners to excel in their profession. The premiums and medals we have distributed have proved a great excitement. Should the patronage and fostering influence with which the society has been sustained, for several years, be continued, the greatest benefits, and most agreeable results to the country at large, will be the consequence; and the subject requires only to be duly considered, to convince every gentleman in the country who is possessed of a garden, that it is his own advantage to support such societies.

"As the best methods of extending the benefits of the institution, we have had in contemplation the formation and establishment of an experimental garden, which would soon be arranged, were adequate funds procured. Already considerable subscriptions have been made, and we calculate that a small subscription from each member would complete the work. The London Society have been very generous in promoting our undertaking, and we feel grateful for their kind attention; indeed their plan is most liberal. That society may be considered as a fountain, from which all the local societies will be supplied, and eventually the whole country stocked with every thing rare and valuable."

This society has two good features, which, as far as we know, are peculiar to it, that of appointing a chaplain, and of admitting ladies to be present at their meetings. On the beneficial influence of the latter practice, Mr. Grierson received a congratulatory letter from the late Sir Joseph Banks, of which he has sent us a copy, and which we may probably at some future time lay before our readers. With respect to a garden, our opinion is, if the society can support one in good style, it would be a very desirable thing as a public ornament; but we do not believe that any provincial society's garden will ever be of the least use; they are very fertile subjects of quarrels, and by these, and their expence, very likely to cause the dissolution of the societies that may set them a going.

Edinburgh Botanic Garden. We were in some hopes of being able to give a plan and description of this garden in our present number, similar to what we have given in No. 1. of that of the Caledonian Horticultural Society; but having written to Professor Graham on the subject, he informs us (of date Feb. 8th.) that he had " very long ago promised an account of the garden to the Edinburgh Philosophical Journal." We wait, therefore, till it makes its appearance in that work. We consider the plans of all public gardens as of great importance, by their influence on the general taste of the country. The plan of the late Botanic Garden at Edinburgh was excellent, so far as it went; and not less so appears to be that of the Caledonian Society's Garden lately laid out. We have no fears of the new Botanic Garden falling short, either of the old one, or of the Botanic Garden of Glasgow, the last a master piece of its kind.

ART. VI. *Caledonian Horticultural Society and Garden.*

Caledonian Horticultural Society. The venerable and much respected president of this society has sent us his discourse delivered at the annual election meeting, on the first of December last, upon awarding to Mr. John Hay, garden-architect, their annual premium for the most interesting communication received during the year 1825. It seems that this society, " imitating the laudable example of the Royal Society of London," bestow annually a testimony of their approbation on the author of the most interesting communication transmitted to them during the course of the year. This year the medal was conferred upon Mr. John Hay, Garden-Architect, " for the admirable plans of conservatories, vineries, pineries, and other buildings, presented by him." These plans, the president anticipates, will soon be published in the Society's Memoirs. The president anticipates great improvement to the horticulture of Scotland, from the establishment of the society's garden, and he reverts, as in former discourses, to the numerous[*] benefits which may result from a regius professorship of horticulture in the University of Edinburgh. The object in view by such a professorship, is not the instruction of operative gardeners, but of men of taste and literature; to convert one of the most useful of arts into one of the most interesting of the sciences; to give a taste for horticulture to the students of philosophy, of medicine, and of law; but particularly to the students of divinity.

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[*] " By infusing a spirit for gardening, which I hold to be the most innocent, the most interesting, and the most healthful of all rural amusements, into those who are hereafter to be faithful pastors in the worship of the ALMIGHTY for the inhabitants of Scotland, there can be no doubt, that the glebe and garden attached to every minister's manse in Scotland might soon exhibit to the parishoners an example worthy of imitation; and would, in a very short period, have very considerable influence in improving the gardens in every parish in this kingdom. To promote this desirable object, if such (a professorship shall be established by royal authority, I think it ought to be one of the conditions imposed by the Crown, that the lectures delivered by the Professor of Horticulture, like those by the Professor of Divinity, should be open, without any fee, to every one regularly matriculated as a Student of Divinity. By this means, I have no doubt that horticulture, both as an art and science, would soon be successfully cultivated in every corner in Scotland. And I have as little doubt, that this would contribute very materially both to the health and happiness of ministers of the Gospel in the Church of Scotland, and to the improvement of the kingdom.

" Without pretending to the gift of prophecy; on this subject, I can venture to predict, from personal experience, and from being a zealous amateur of Horticulture, that very important good consequences will result both to the Scottish Clergy, and to the better cultivation of every parish in Scotland.

"If it shall be the will of Heaven to protract my life till a Regius Professorship of Horticulture be established in the University of Edinburgh, I shall have lived to see the accomplishment of my most sanguine wishes for the advancement of Horticulture in Scotland. Horticulture, as a relaxation from a laborious profession, has, during the whole course of a long life, been my favourite amusement; and I am firmly convinced, that it has contributed not a little to my health, as well as to my happiness. I shall only add, it is my earnest wish that, with others, and especially with those now here assembled, it may be productive of the same good effects."—(*Disc.* &c. p. 12.)

Such are the ardent wishes of this benevolent man, and which, whether a professorship of horticulture be established or not, will to a certain extent be realized with the increase of general knowledge, and the great stimulus given by societies and publications, aided by times like the present, of peace and leisure.

It is gratifying to us to have received a letter (dated Feb. 18.) from so amiable a horticulturist, in which, speaking of the Gardener's Magazine, he says, "I highly applaud the plan of the work, and have no doubt that I shall derive much satisfaction and much happiness from being one of its constant readers."

The quarterly meeting of the society was held on the 2d of March, when ten new members were admitted, and various premiums awarded. Among the latter was one for a fine pencilled variety of mushroom, of exquisite flavour, to Mr. W. Reid, gardener to Sir John Majoribanks, of Lees, Bart. That for the finest camellias, was given to Mr. John Barcly, gardener to Professor Dunbar, at Rose Park. Another premium was awarded to Mr. Cunningham, of the Comley-bank Nursery, for a seedling camellia raised by him. The prize for ericas was obtained by Mr. Macnab, of the Botanic Garden. A report was read, detailing the advanced state of the Horticultural Garden, and recognizing the appointment of Mr. James Barnet to be head gardener, "a person of great experience in his business, having been in the Botanic Garden at Edinburgh, the Royal Gardens at Kew, and having held a situation in the garden of the London Horticultural Society."

Some animadversions on the management of the Caledonian Society have appeared in the Scotsman newspaper, for Feb. 15th., which were ably answered in the same paper of Feb. 25th and March 1st. Such a controversy will rather be favourable to the cause of the society than otherwise. Sound criticism is useful, by leading to improvement; false criticism or ill natured remarks at least put people on their guard. It seems two minor societies have sprung up in Edinburgh, of which the following accounts have been sent us. They cannot be considered rivals of the great society; but rather as little offsets — let them all work their way for their own gratification and the general good.

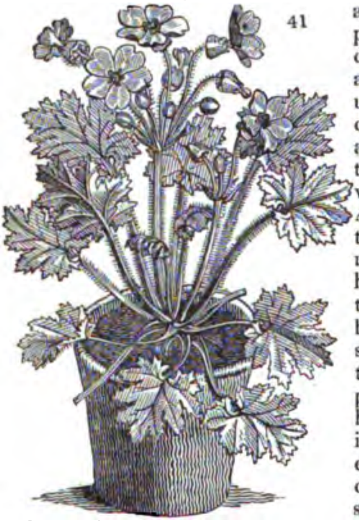
The Edinburgh Amateur Florist Society. In the summer of 1822, this society was established by some distinguished amateurs, to promote the cultivation of florist's flowers, and mutually to improve their taste by shows and competitions. It is constituted on the model of the Lancashire auricula clubs. No professional gardener is admissible, of consequence the members are but few, and the number of prizes awarded limited. Some very choice collections of auriculas, tulips, and ranunculuses are in possession of the members.

The Edinburgh New Horticultural Society was instituted last summer by a number of practical gardeners, resident in the neighbourhood of Edinburgh. There appeared to be room for something of the kind. The Caledonian Gardener's Lodge, along with its other functions, is a benefit society; and as it was established long before the late excellent researches into the principles of such institutions, which were made at the instance of the Highland Society of Scotland (*See High. Soc. Trans.* vol. vi. p. 271.), nearly all its funds are absorbed by the relief of the sick, and the widows of deceased members. Hence the prizes for horticultural productions have become very limited, and as we have heard, it is intended to give them up altogether. The Caledonian Horticultural Society, on the other hand, appeared to some to deal too much in the theoretical speculations of amateurs; and as it is chiefly composed of the latter, and its business conducted by men of science, it has failed to act as a centre of attraction and intercourse to the operatives of the profession. For these reasons, real or imaginary, the new society has been formed, and consists entirely of professional men. They meet once a month, and endeavour to profit by conversation. As the members are still few, the revenue of the society is small, but sufficient for the number of prizes which it is found necessary to give. The society collects its experience in the form of notes, and this, along with other discoveries or inventions of the members, it contemplates publishing as memoirs.

Popular Botanical Lectures, for all classes, including ladies and family parties, are advertized to be delivered by Professor Graham; and similar lectures on chemistry, by Professor Hope; a gratifying proof of the increasing popularity of these sciences in Edinburgh.

ART. VII. *Calls at the Nurseries, and other Suburban Gardens.*

Lee's Nursery, Feb. 16.—The demand for trees and plants seems to be as brisk as it has been for several years past. The late frosts seem to have done little injury; a number of plants against Mr. Lee's house are still matted up, but, as we before mentioned, a double white Camellia as a bush, and a single red one so imperfectly, as to be almost a bush, have escaped without any protection whatever. Araucaria lanceolata, without protection, has been nearly killed; but nothing has suffered in the greenhouses, or conservatories. In one of the stoves are some of the finest bread-fruit plants which we have ever seen; one is nearly six feet high. In the same stove are several newly-imported palms and bulbs. In the heath-house a great number of species are in flower; but in this nursery, as every where else, the most conspicuous plant in flower is the Primula sinensis (*fig.* 41.)



41

. *Mackay's Nursery, Clapton, Feb.* 2, 1826.—There are some fine plants now in flower, or approaching that state in this rising nursery, Among a collection of forty different sorts of Camellia may be mentioned the gloriosa, a double red variety of the Waratah kind, raised from seed by the late Mr. Ross. There are considerably above 300 species of Ericæ, of which about 60 are now in bloom, including E. vernix coccinea, E. scabriuscula, and E. biflora of Andrews. Berberis fascicularis, a very rare plant, elsewhere noticed, is planted out in a propagating pit, among Camellias, and coming finely into bloom. Mr. Mackay has succeeded in rooting several layers. Against the back wall of this pit, is a magnificent plant of Brachysema latifolium, covered with flower buds. Lechinaultia formosa is in full bloom, and Prostranthera violacea, an elegant plant from New Holland, Lobelia senecioides, a species a good deal like L. coronopifolia, also from New Holland, and the following species, sent home by Mr. Baxter, a collector who has been in Australasia on Mr. Mackay's account for several years, are coming into flower: — Kennedia coccinea of Ventenat; a beautiful new species of Hovea, a little in the way of H. celsii, but much less in all its parts; a species of Boronia, with entire lanceolate leaves, and a decandrous papilionaceous plant, abundantly covered with fine carmine flowers, and which has not yet received a name. There is a propagating shelf or elevated bed of sand for striking cuttings in one of the hot-houses of this nursery, which well deserves the attention of cultivators, and which we shall on a future occasion describe at length.

In the show-house of the Belgrave Nursery, King's-road, belonging to the same individual, is a good collection of common showy things in bloom, for the decoration of apartments; and in the hot-house many hybrid amyryllidea and orchidæ in bloom.

Colville's Nursery, Feb. 25. — Here is the finest show of forced flowers about town; including rhododendrons, azalias, purple magnolias, kalmias, lilacs, roses, double peaches, cherries, dwarf almonds, and other shrubs; and hyacinths, narcissi, and other bulbs, with pinks, violets, and a variety of herbaceous plants. The new conservatory and hot-house look remarkably well at this season, and the latter is set off to great advantage by the forced articles, which occupy the front shelf, and are distributed along the curb of the bed of earth. In the hot-house a great variety of hybrid amyryllis are in full flower, and in both departments numerous plants of different species coming rapidly into that state. As many greenhouse plants are now producing young wood, the operation of putting in cuttings, which, in so extensive a concern as this, is never entirely at a stand, goes on with increased rapidity at this season.

Knight's Nursery, King's Road, Feb. 25. — Mr. Knight has recently completed the erection of a large conservatory or Camellia-house, with a curvilinear iron roof, which we shall, on a future occasion, describe and figure. This house forms the termination to an extensive range of show-houses, which differ from all others about London, in having side walls of brickwork, higher than the glass roof, and a broad gutter over the pathway in the centre; the general effect of the arrangement on entering from the road may be compared to that of looking through the tube of a telescope: a greater apparent depth could not easily be produced, or more plants kept in a healthy state, at so small an expence of transparent roof. Mr. Knight judiciously adapts the sort of plants to this arrangement; keeping there chiefly camellias, oranges, tree rhododendrons, and similar evergreen thick-leaved plants, which, when not in a growing state, require less light and air than most others. The new plant habitation which forms the termination of this range, is glazed with green glass, the manufacture of which is now so much improved, that in this case it appears very little inferior to the quality known as crown glass, while the price is not much more than one-half. This to nursery-men must be an object of considerable importance.

The principal thing which struck us in Mr. Knight's exotic collection, was the excellent state of his heaths, diosmas, and other similar Cape plants. They were of a vivid green, and in luxuriant growth. This he attributed chiefly to the excellence of the air, which is doubtless better on the south-west side of London than on any other side, and to the use of rain water. For five or six years after he took this nursery he used well-water, which, though pronounced from analysis to be excellent for every domestic purpose, he yet found to be injurious to plants, and especially to heaths. He has since erected cisterns, and made arrangements to collect the whole of the water that falls on his numerous roofs; he waters his plants in pots with nothing else, and since he did so, he thinks he has found a decided superiority in their thriving. He remarked that though he grew heaths with the greatest facility at Clapton, yet he could not grow them here in a satisfactory manner till he used rain water. The peat soil used at both places was from the same common; but the water at Clapton was in part from a well, and in part from collecting cisterns. We must therefore suppose that the well water of Clapton is of a quality more suitable to vegetation than the well water where Mr. Knight now resides.

Mr. Knight has the largest saleable plant of the Magnolia conspicua in the neighbourhood of London. He purchased it two years ago when on a continental tour, and keeps it in a large box in his conservatory. In planting a new pleasure ground, such a tree as this, the Magnolia grandifloras at Malcolm's, the Rhododendrons at Thomson's, and the Arbutuses at New-cross, would effect wonders.

Last autumn Mr. Knight had planted some hundreds of the acorns of evergreen oaks in small pots, and placed them in a sheltered situation; the fortnight's severe frost in January, however, killed every one of them before they had begun to germinate. This is what we could hardly have supposed would have taken place; the acorns in a dry state, buried among decayed leaves under the parent tree, might probably have escaped, while those in earth, and saturated with moisture, suffered. There is a very fine large plant of Chimonanthus fragrans in this nursery, which has been in flower since the beginning of December.

Kew Gardens, Feb. 27.—The plants in the hot-houses are looking better than they have done at this season for several years past. The young man who showed us through, attributed the circumstance to the air having been kept in a more moist state, by dashing abundance of water on the paths and flues in days of sun-shine. This applies, of course, more particularly to stove plants. There were not many plants in flower; the principal were different sorts of aloes in the dry stove, and various species of acacia in the green-houses. The following plants, in bloom, were scattered here and there:—Diosma, several sorts, Epacris pungens and grandiflora, Sparmannia africana, Templetonia retusa, Pœonia sarcacola, Enkianthus nova species, various camellias, heaths, &c.

Not many half hardy plants in the open air have been killed by the late frosts; a plant of Araucaria excelsa, too large to be any longer kept within doors, was in autumn turned out in a corner, and matted over, but has died. Its trunk at the base is at least four inches across. Aurucaria imbricata, protected by its moveable tabernacle on the spot where it has stood nearly ten years, looks as well as usual at this season. The mats on the south side are taken off in the day time, and only put on in the most severe evenings. A thrush has built her nest in the axil of one of the principal branches. Eucalyptus against a south wall is killed, as in the Horticultural Society's garden; also a species of rhus, and one or two Botany Bay plants; even some common broad-leaved myrtles are severely injured. Chimonanthus fragrans, and Clematis calycina, had been magnificently covered with flowers, during December and January. A large Magnolia conspicua, hitherto kept in a box, but now planted out, and the full grown tree of Magnolia acuminata, give abundant promise of flowers.

In the kitchen-garden at Kew there is nothing worth looking at but the forcing-house. The standard apple trees are covered with canker, crowded with spray like old birch-trees, produce no fruit, and allo wnothing to grow under them. The trees on the walls are better.

The pine plants are the best we have ever seen at Kew, and on a footing with those at other gardens. One planted in a glass pot to show the progress of the roots, looked yellow. The vines, in different periods of advancement, are all in a good state. In one house the berries are set. Some cherries, in pots, are also set. We observed an abundance of ants creeping over the blossoms on some chery-trees, and we have little doubt they contributed in a certain extent to fecundation. There were ample crops of ripe strawberries and kidney-beans fit for gathering. The whole of the department did great credit to Mr Nowland, its curator.

A new public entrance has lately been made to these gardens; it is perhaps more convenient for the public, as its door may be approached with a carriage, but the walk, proceeding along a narrow crooked passage, has nothing of the magnificence, variety, and beauty of the portion of pleasure ground which bursts on the view, on entering the old door-way. We took a short walk in the pleasure ground, which even at this season of the year is delightful; perhaps, indeed, its effects are more intensely felt now than at any other season. The repose, the consecration to man, the various kinds of shrubs and trees, and their no less varied disposition on the ground, are felt at all seasons; but it is in winter, and early in spring, that we have the full enjoyment of the shelter, the dry gravel walk, the fine shining leaved evergreens, some of them, as the holly, laden with berries, and others, as the laurels, beginning to protrude their blossoms; the ever-verdant turf, the budding of deciduous plants, the springing up of bulbs, the notes of the thrush, and the balmy freshness of the air.

ART. VIII. *Ireland.*

Mulberry Trees. Arrived in Cork harbour the Hendrica, H. Martens, from Cette, in the Gulf of Lyons, South of France, laden with 26,000 white mulberry trees, the property of the British, Irish, and Colonial Silk Company, value 10,000*l.*, and which are at present discharging for the purpose of being planted in this country. They are consigned to George Foot, Esq., agent to the company in this city, and there are already 180 men employed in planting them, under the direction of Mr. Young, an intelligent Scotch gentleman, at Mitchelstown, in this county, for which purpose ten acres of the Earl of Kingston's estate have been appropriated. The remainder are to be planted in the neighbourhood of Mallow, and at Kenmare, in the county of Kerry, where the necessary preparations have been also made. There are also landing from the Petrell, of and from London, forty bundles of the same description of tree, which had been imported from Italy, and ten cases and three bundles of plants, per the London, from London, for similar purposes; and a native of Italy has arrived in the latter vessel to superintend the progress of this great work, and to give the necessary instructions in the care of the worm.—(*Cork South. Rep.*)

ART. IX. *Hints for Experiments.*

To take Impressions of Plants. Spread a specimen between two leaves of paper and dry it in the usual manner; then wash over one side with Indian ink; place the plant so prepared again between two sheets of paper, the lower of which is somewhat moist, as in common printing, and place the leaf, with some paper above and below it, in a common press. The result will be a figure of the plant not unlike an aquatint engraving.

Retaining good Varieties of Apples in the Country. A correspondent in the Mechanic's Magazine makes a very easy matter of what Mr. Knight and other physiologists consider very difficult, if not impossible. It is no wonder, he says, that the finest apples have degenerated, because "every successive grafting is a new pejoration of the fruit engrafted." To retain good apples in the country, "without the pains of grafting," he gives the following directions; on which we would observe, that as he mentions only "good fruits," and not "any particular variety of fruit," he may probably be correct; or, at any rate, under that form of words he evades the question of perpetuating the peculiar qualities of a variety; say, for instance, of the golden pippin.

"In every perfectly ripe apple there will be found one, and sometimes two, round seeds; the others will have one or more flatted sides. The round ones will produce the improved fruit from which they are taken; and those with flatted sides will produce the fruit of the crab upon which the graft was inserted. It requires not a long time to ascertain the difference; for if a circle is drawn in rich ground, and the flatted-sided seeds planted therein, and the round seeds in the centre, the variation of the quality will be discovered in two or three years; the first will throw out the leaves of the crab; and the latter the leaves of an improved tree, distinguished in shape, fibre, and a lanuginous appearance; and in due time the fruit of each will put every thing beyond a doubt.

"It is to be observed, moreover, that the seeds of crabs (being originals) are mostly, if not altogether, round." (*Mech. Mag. Jan.* 21.)

We should be happy to hear the result of a few trials. Take a bud from the seedling the first summer, insert it in the extremity of a branch of an old tree, and it will probably blossom the third spring. Thus three or at most four years will suffice to prove this theory true or false.

Yeast as a Manure. It is not generally known that this is one of the most powerful manures in existence. Some experiments have been tried with grass-plots and different culinary vegetables, from which it appears, that a very small quantity of yeast, after it has become putrid and useless to the brewer or baker, will effect wonders when mixed with water and applied to plants as liquid manure. The only danger seems to be in making it too rich. We would recommend such of our readers as have leisure and opportunity to try it on pines, vines, the Brassica family, especially cauliflowers, the potatoe, as a pickle for wheat and other seeds, and for watering new-sown turnips and similar oleaginous seeds.

Substitute for Ringing. As oil is well known to indurate the bark of trees and prevent its swelling, we would suggest the idea of trying oiling a broad zone of bark, as a substitute for ringing.

To preserve Broccoli in a growing state from being injured by the frost. Put the plants in an artificial coppice wood, by laying some bean or pea haulm or other litter on the ground among their stems, to imitate withered grass, and then striking the whole plot as full as it will stick of old pea stakes, to imitate the bushes.

Coal Ashes. It does not seem to be very generally known among gardeners that cinders, whether large or small, are injurious to the roots of many, if not of most vegetables. A few days ago, in shifting a few roots of chrysanthemums which we had received from ———, we observed some of the plants looking much less healthy than others. On turning the unhealthy plants out of the pots, we found that, instead of potsherds, a large handful of coal cinders had been used for draining them. On turning out the healthy plants, potsherds had been employed as usual, and the roots were matted about them, while no roots had penetrated among the cinders. On directing the attention of a horticultural friend to the circumstance, he related the case of a large garden in Scotland which had been manured or coated over with coal ashes from a neighbouring town for two years in succession; which ashes, though impregnated with the usual animal and vegetable matters, displayed their deleterious effects both on fruit trees and culinary vegetables, not less than in the chrysanthemum pots. The gardener, finding his fruit trees not to thrive so well as he expected, but attributing it to a different cause, took up a number of them, and formed a sub-stratum of ashes, in order to lay them, as he said, dry and comfortable. The trees got worse, and were again taken up and the ashes removed; but such were the deleterious effects of the ashes already worked into the soil, that this garden, which previously was, and now is, one of the most productive in Scotland, was two or three years before even moderate crops could be raised. These facts may be relied on, and they are of very considerable importance both to the gardener and the agronome. It is but doing the former class justice to state, that most of them use ashes only for the purpose of making a flooring for setting out plants in pots; such a flooring being found inimical both to worms and the roots of plants; and therefore preventing the former from getting into the pots, and the latter, at least of most sorts, from getting out of them. Still we should be glad of information on the subject of cinders or coal ashes as a manure or as a poison.

Mildew on Peaches and Nectarines. An experienced gardener informs us, that he finds those peaches most subject to mildew which have no glands at the base of their leaves; and those least subject to mildew which have globose glands. The first class, according to Mr Geo. Lindley's arrangement, contains sixty sorts, including the Newington, Nobless, Royal George, and Red Magdalen Peaches, and the Newington, Elruge, and Princess Royal Nectarines. The second class contains several sorts, including the Early Galande, Marlborough, Kensington, Bellegarde, the Teton de Venus, and the Pitmaston Orange Nectarine. Mr. Lindley's third class of Peaches and Nectarines have reniform glands, and these are said not to be so subject to the mildew as the sorts with glandless leaves, but rather more so than those with globose glands. This class contains numerous sorts, and includes the Apricot Peach, Nutmeg, Incomparable, and Chancellor Peaches; and the Roman, Fairchilds, Aromatic, and Violet Nectarines. If the above theory as to mildew be correct, it will afford an important guide to gardeners who are in possession of Mr. Lindley's arrangement, and which they will find in our forthcoming Hortus Britannicus.

Art. X. *Self-Education of Gardeners.*

The spirit of education is the prevailing characteristic of the present times. Not to speak of the extraordinary efforts making in Britain for the education of the lower classes, and the better education of those who are, or ought to be, above them; this spirit of instruction is proportionably abroad all over the Continent, and with the exception of China, perhaps throughout the world. In France the Lancasterian system has been developed by Lasteyrie, and would have been generally introduced, but for the opposition of the clergy. So extraordinary was the spirit of education in Spain, that the late Cortes predetermined by law, that after a certain number of years, no person whatever should be competent to undertake a public situation, however low, and whether local or general, unless he could read, write, and cast accounts. Unfortunately the re-establishment of the ancient religion has put an end to that law for the present; but it will be remembered at a future period. In Germany, Denmark, and Sweden, parochial schools, much on the same plan as those of Scotland, have been in existence since the time of the reformation. There, as here, this system has recently been improved on, and *infant schools* for children from two to five years, and *working schools* for girls and lads from five years and upwards, have been established in various places. In these last, every description of domestic employment is taught to girls; and of country work, the commoner mechanical trades, and, to a certain extent, military exercise, to boys. Some account of the schools of this description in the kingdom of Hanover will be found in Hodgkins' Travels in Germany (8vo. 1819), and in the Encyclopædia of Agriculture (§ 581.): and the Swiss schools of the same description will be found described in Sismondi's Switzerland. Even in Russia the Lancasterian system has been introduced; and the subject has not been lost sight of by the Greeks and Ionians, notwithstanding their present troubles. In North America education is as much prized as in Britain, or Germany:

in South America it promises to be equally so. Among the West India Islands education is now becoming general, even to the children of slaves; and the President Boyer, of the republic of Hayti, has declared to his black subjects, in a manifesto published some years ago, that "education and agriculture constitute the chief strength of states."

Under these circumstances, it is not our intention to invite or court the young gardener to cultivate his intellectual faculties, but rather to point out to him the absolute necessity of doing so, if he wishes to maintain any higher station than that of a country labourer. If he remains content with the elementary knowledge he has acquired, or as gardener lads acquire under ordinary circumstances, he will assuredly never advance beyond the condition of a working gardener, and may not improbably sink into that of a nurseryman's labourer of all work. To get a good place as a gentleman's gardener, it is not sufficient now-a-days to know the culture of kitchen-crops and fruits; the man who gets eighty or a hundred pounds a-year must know plants well, and be able to converse on botany as a science. He must not only be a good practical botanist, but possess some knowledge of chemistry, mechanics, and even of the principles of taste. Instead of being barely able to write and guess at the spelling of words, he will never be admitted, even as a candidate for a situation, unless he writes a good hand, spells and points correctly, and can compose what is called a good letter. Drawing, at least of ground-plans, is indispensible; and for a first-rate situation, sketching landscape, and some knowledge of French, equally so. A knowledge of the rudiments of Latin and of Greek, so far as to be able to find out the meaning of nouns in a Greco-English dictionary, is pre-included in some knowledge of scientific botany. Every gardener, in short, who can now be considered worthy of the name, must understand the principles of English composition, and be capable at the desire of his master, or of his own proper motion, to write a paper on his art, fit to be introduced in the Horticultural Society's Transactions, or in the Gardener's Magazine. The gardener who has no ambition to appear as a writer in one or both of these works, must be a heartless mass of subsoil.

Viewing the subject of education as of so much importance to gardeners, we shall from time to time recur to it, more particularly with a view to enable young men who are already engaged in their profession, to work out their own scholastic education, in so far as that may have been imperfect, in the hours devoted to rest and refreshment.

But previously to entering on the subject of young men instructing themselves in science, we shall in our next number point out what we consider the best mode by which a working gardener who is too old, or whose mind is not sufficiently pliable to derive instruction from books, may improve his circumstances, and prevent him from falling back in the latter period of life into the condition of a jobbing gardener; the miseries of which have been so feelingly depicted in our last number, by our worthy correspondent, Mr. M'Naughton.

Art. XI. *Biography.*

Andrew Thouin, (*fig.* 42.) born in Paris, 1745, devoted himself from his infancy to the study of botany, and merited being chosen to replace Guettard in the garden of plants, of which his father was head gardener. In 1786 he was admitted a Member of the Academy of Sciences. It was by his care that the garden was improved, the system of cultivation perfected, and more certain methods used for preserving and propagating the numerous plants with which every day this valuable depôt was enriched. It was from his solicitation that a professorship of practical cultivation was established, and the first public lecture on the subject given in France. M. Thouin was

A. Thouin

chosen by government, professor to the Normale School, established in 1794, and was sent about the same time into Holland and Italy to examine the agriculture of these countries. He was commissioned to add to the Garden of Plants fruits of the best quality; and we find in them not only a great variety of fruit trees, but also plants used for the food of men and animals, and those used in the different arts. The school which he founded contains examples of pruned trees, grafts, inclosures, and hedges of different kinds. The public regrets that M. Thouin has not published the Lessons of Agriculture which he arranged in the form of tables, and there specified the knowledge acquired by profound theory, and daily practice. A member of the institution of the central Society of Agriculture, &c. he has published in the Memoirs of that Society, in the Annals of the Museum, and in the Dictionary of Natural History, several memoirs and articles. He wrote a great part of the Agricultural Dictionary; of the Methodical Encyclopedia; and also the 11th and 12th vols. of Rozier's Course of Agriculture. The 27th of October this respectable man finished an honourable career, every period of which is marked by studies useful to the progress of agriculture. The 29th of the same month his mortal remains were deposited in the burying ground of Père la Chaise. Deputations from the Academy, the Society of Agriculture, and other learned bodies, assisted at the ceremony. The Baron Cuvier delivered a speech in the name of that learned assembly. We shall extract some passages of it, which display the virtues and merits of a man so justly regretted:—

"Gentlemen, it is modesty and science, united to the most amiable simplicity, we lose to day in the good old man whose remains this tomb is about to cover. This coffin, surrounded at once by the members of an illustrious body, and the humble workmen of a great establishment, equally watered with their tears, is that of a man, who belongs to both families, and by which he was equally beloved and revered. Born in the king's garden, succeeding two or three of those patriarchal generations whose labours for nearly a century embellished and improved this magnificent depôt of the riches of nature, M. Thouin there found in some respects an hereditary domain; considered it his country, and placed his existence there. Those celebrated men Buffon and Jussieu thought themselves honored to see him seated beside them, and learned Europe no longer omitted to sound his fame. From that time his modest career became better known, and few men have displayed a more useful influence. Become the centre of a correspondence which extended to all parts of the world, he did not cease for half a century to encourage amongst the different countries the exchange of their vegetable riches. Productions from the most distant parts of the East Indies, received, valued, and multiplied by him, are sent to increase and enrich our American islands; America in her turn sent to our Indian colonies the most valuable things she possesses. How many fine trees which now shade us, would have remained unknown to us without the indefatigable activity which animated him! Where is now, not only in France, but in Europe, and in the two hemispheres, the park or garden which does not boast of shrubs and flowers indebted to his zeal and industry? Where is the orchard where he has not distributed some well flavoured fruits? Such services during a nation's infancy would make its authors be worshipped; they will always at least be sure to excite the gratitude of the friends of humanity, who know, that by multiplying a useful plant, we multiply men, and that it is a more certain and durable property for the country that receives it, than the best written laws; because, like them, the combinations of men are transitory; the gifts of nature once acquired by a nation are inexhaustible."

M. Cordier, in the Museum of Natural History, also delivered an eloquent speech, prompted by the esteem and friendship which he bore this respectable old man.

A list of Mr. Thouin's writings will be found in the Bulletin Universel des Sciences Agricoles, tome 1. His library was sold by auction in Paris, in the beginning of last March.

Art. XII. *Obituary.*

Died at Knowlesley Hall, near Prescot, Mr. Richard Keyte Yarnall, twenty-nine years and nine months head gardener there. Mr. Yarnall was born at Ebrington, in Gloucestershire, on the 20th Sept. 1752; he was educated at the free school of Campden, and served his apprenticeship to his uncle, then gardener at Coombe Abbey, Warwickshire. He then went as a journeyman to Hampton Court Gardens, at that time under the celebrated Landscape Gardener, Mr. Brown. At the age of twenty-two he was engaged as gardener to the Earl of Waldegrave, at Navestock, Essex, where he lived sixteen years, till his Lordship's death. He next was engaged by the Earl of Shrewsbury, for the gardens at Heythorpe, in Oxfordshire; but being solicited by the Countess of Waldegrave to return to Navestock, he did so, and remained till the death of young Lord Waldegrave. After this event, her Ladyship entirely gave up the gardens, and Mr. Yarnall, in May, 1796, became gardener to the Earl of Derby, at Knowlesley, where he remained till he died, on the 19th of February last, in his seventy-fourth year.

As a man, Mr. Yarnall was respected by his fellow servants, and his employers; and as a gardener he gave the highest satisfaction. We first called at Knowlesley Gardens, in July, 1805, and then observed in a cucumber-house, heated by steam, the plants trained like vines on a trellis, close under the glass, and a large crop of fruit hanging from them. This house, the mode of heating by steam, and of training the plants close to the glass, was the invention of Mr. Butler, Mr. Yarnall's predecessor. We again called at Knowlesley, in Feb. 1819, on the day of the burial of George the Third, and saw the same cucumber-house in full bearing as before, and also twenty-one cucumbers cut from it that morning, to be packed up and sent to the family at the Oaks in Kent. If we are correct in our recollection, Mr. Yarnall then told us, that there had been a crop of cucumbers hanging in that house, without any interruption farther than that of a month or two in summer, when they were abundant in the frames, for twenty-five years.

The greatest humanity and kindness was shown to Mr. Yarnall, in his last illness, by his noble mistress and master; who rather than hurt the worthy man's feelings by superannuating him, or appointing his successor during his life-time, chose to submit to various privations, and irregularities of management, the inevitable consequence of the want of an active superintendant.

Mr. Yarnall had a son, who was gardener to Lord Vernon, at Sudbury, in Derbyshire, who died some years ago, and left a family of young daughters.

Died on the 13th of March, at his house in Hackney, Conrad Loddiges, Esq. in his eighty-eighth year, the founder of the celebrated nursery of that place, now carried on by his sons.

Died on the 14th inst. at his apartments in the British Museum, Dr. Noehden, author of various interesting papers in the Horticultural Transactions. He is said to have been principally instrumental in inducing Mr. Harrison, of Wortley Hall, to publish his valuable Treatise on Fruit Trees.

Art. XIII. *Queries and Answers to Queries.*

A. S. would be glad of information respecting the best mode of breeding gold and silver fish; and he asks if it be true that the spawn when newly spawned, if collected and dried, will in that state preserve its vivifying principle so as to be kept some time, or sent to a distance?

Ribes is desirous of knowing if any hybrids have been originated between the black and red currant, or between the raspberry or bramble.

"*A Subscriber,*" who dates from Dawn in Kent, enquires if pines can be raised in the same manner as melons, and if so, how so. To this we answer, that pines may be grown in large melon frames by the heat of dung alone, as well as in hot-houses by tan and fire flues. The "process" will be found in the Encyclopædia of Gardening, Part 3. Book 1. Chap. 7. Sect. i.; and more at large in *The different Modes of cultivating the Pine Apple from its first Introduction to Europe, to the Improvements of T. A. Knight, Esq. in* 1822. 1 vol. 8vo.

"*A young Gardener,*" who has heard it asserted, "that many of the apples in France are grafted on willow stocks, in consequence of which the fruit is woolly, and flat in flavour," may rest assured that the whole is nonsense; for reasons which he will find detailed in our Encyclopædia, Part 2. Book 4. Chap. 3. Sect. 2. Subsect. 4.

"*A Constant Reader*" is informed that the yellow rose will grow and bloom very well upon the Rosa Arvensis; which is common in every hedge. If no stools are already prepared, take the buds out to the fields, and insert them on any shoots, whether strong or weak, or long or short. One long shoot may have a bud put in at every 10 or 12 inches. In autumn cut the shoots off, bring them home and make cuttings of them, taking care that there is a yellow bud in each cutting. They will strike freely, and make neat little plants. The same thing may be done with every other species and variety of rose, and hence a complete collection, budded on rosa arvensis, might be had for the labour of budding, provided buds could be had of the different kinds. Rosa sempervirens and Doniana strike almost as freely by cuttings as rosa arvensis.

"*Amateur*" is informed that the Maclura aurantiaca is to be had both in Paris and London, at from thirty shillings to two guineas a plant, layers, or budded on the mulberry. In compliance with his wishes, we shall endeavour, in next number, to give a figure and description of this new hardy fruit, which promises to be a most valuable addition to the dessert.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

43

NEW STRAWBERRIES. BISHOP'S ORANGE (*fig.* 43). This fine New Strawberry is the largest belonging to that class called Scarlet; but possesses a deep orange colour, whence its name. It will frequently attain four inches and upwards in circumference; but that which particularly recommends this strawberry to notice is, that it is a most abundant bearer, and allowed by all who have eaten of it, to surpass in flavour any strawberry yet known. Also the Early Globe, an extraordinary bearer, and the Cinnamon, a fine fruit, both of which are large and early, being only a day or two later than the Virginian, and, in general, twice its size. Plants of the above are now selling by Messrs. Cormack, Son, and Sinclair, 53. Regent Street; Messrs. Buchannan and Oldroyd, Camberwell; and by Robert Bishop, New Scone, near Perth, at 20s. per score. When more than three score are purchased, 20 per cent. discount is allowed.

44

J. WILMOT of Isleworth, Middlesex, has raised a new and very superior Strawberry, named Wilmot's Superb (*fig.* 44). The size of the fruit is from six to eight inches in circumference; weight from one to two ounces, far exceeding any other variety in beauty, appearance, and flavour ever raised in England.

Orders received by Mr. Grange, Fruiterer, Covent Garden; and by J. Wilmot, Isleworth.

E. WEIR respectfully informs the PUBLIC, that every Description of AGRICULTURAL IMPLEMENTS, MACHINES, and, in particular, all those mentioned in Mr. Loudon's Encyclopædia of Agriculture, and in the Gardener's Magazine, are now for inspection, at 369 Oxford Street, where may be had M'Intosh's New VERGE CUTTER, and Improved ORANGE TUB, described in No. II. of the Magazine. The price of the former, with Two Sets of Irons, is 15s.; that of the Orange Tub depends upon its Size.

WANTS a Situation as GARDENER, a respectable young Man, (age 28,) who perfectly understands the Management of the Kitchen Garden, Forcing and Framing; also the Propagation and Culture of Stove, Conservatory, and Green-house Plants; Flower-Garden, and Forcing of Flowers, &c. Can have a good character from the Nobleman he last lived with two years. — Letters addressed to H. J. No. 2. Vauxhall Walk, Vauxhall, will be immediately attended to. — The Advertiser would prefer the country to the neighbourhood of London.

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THE
GARDENER'S MAGAZINE,

JULY, 1826.

PART I.

ORIGINAL COMMUNICATIONS.

Art. I. *Sketches of the Botanical, Horticultural, Agronomical and Rural Circumstances of Spain.* By Don Mariano La Gasca, Professor of Botany in the University of Madrid.

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These fine dispositions of nature would, doubtless, have been turned to their advantage by the inhabitants, had not a depraved legislation been purposely throwing, for the space of more than three hundred years, insurmountable obstacles in the way of their efforts. A great many enlightened and patriotic Spaniards have repeatedly, though fruitlessly, endeavoured to overcome them, receiving as a reward for their benevolent zeal, sad and bitter disappointments, persecutions, dungeons, the galleys, expatriation, and even death. Such has been the result of their toils, and such will it ever be, in countries where, as in my unfortunate native land, there is no liberty to permit the diffusion of useful knowledge through the medium of the press, — where only those objects are encouraged which are not only useless but hurtful to the national welfare, — where no guarantee is to be had for the security of individuals and their property, — and where they cannot call the soil their own, or cultivate it according to their pleasure or free will.

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BOTANIC GARDENS.

The only botanical gardens existing at the present period in Spain are, that of Madrid, which is denominated the Royal Botanical Garden; those belonging to the four schools of Pharmacy established at Madrid, Seville, Barcelona, and Santiago; that of the College of Surgery at Cadiz; that of the university of Valencia; and that belonging to the Board of Commerce of Barcelona, devoted principally to agronomical botany. In 1818 the government gave orders for six more gardens, also for the study of agronomical botany, to be established at Burgos, Seville, Toledo, Valencia, Badajoz, and Leon; but though professors were nominated to them all, it was only in Seville, Toledo, and Valencia that schools had actually been opened, even in 1820. The botanical garden of Carthagena, being within reach of cannon-shot from that city, was destroyed in 1808, and has never been restored. The horrors of war also put an end to that which had existed at Zaragoza ever since 1796, and which was under the immediate protection of the enlightened society called "The Friends of the Country," who formerly contributed so effectually to diffuse throughout the nation the most useful knowledge by means of their writings, and by the establishment of the academy of Belles Lettres, and schools of public economy, mathematics, chemistry, botany, and agriculture, — by the erection of a cabinet of natural history, — by the annual distribution of prizes, — by their labours to perfect the methods of teaching the first rudiments of learning; and, lastly, by the establishment of the Monte Pio * for husbandmen. In the year 1822, the same patriotic body solicited assistance from the government to re-establish their ancient garden, proposing to make new improvements in it; but I am ignorant whether they obtained it. The botanical garden belonging to the School of Physicians of Seville, founded by Philip V. at the suggestion of his first physician, the celebrated Don José

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* Establishments where they lend money on cattle and implements, exacting but a very trifling interest.

Cervi, has also ceased to exist: the same fate has attended the botanico-agronomical garden of Valladolid, which owed its foundation, in 1803, chiefly to the illustrious bishop Don Juan Antonio Hernandez de Larrea, a model of learning and patriotism, and which was supported by the members of the Economical Society of the same city till the invasion of Napoleon.

The botanical garden of Madrid, founded in 1755, and placed in the royal country seat, called El Soto de Migas Calientes, on the left banks of the river Manzanares, and at about a mile and a half from the city, was transferred in 1788 to the place where it now stands within the walls of Madrid. It is bounded on the west by the magnificent promenade of the Prado, from which it is separated only by an elegant iron railing; on the south by that of Atocha, on the east by the garden of the Buen Retiro, and on the north by that of the monks of St. Gerome, and by the sumptuous building of the Museum of Natural History, erected by the wise and munificent Charles III., and which is now the Museum of Pictures; but another very handsome building is to be erected for natural history in the Prado, so that in this respect it will hereafter be one of the most splendid museums in Europe. (Link's Travels in Portugal, and through France and Spain, p. 103.) Its figure is an irregular polygon; it has two principal gates, of an excellent style of architecture, as entrances for the public, and four other gates for the private service of the garden. Its extent is twenty-eight fanegadas * (about forty-two acres), and is divided into two unequal parts. The largest of these has about eighteen fanegadas; it is divided from east to west into two equal parts by a magnificent walk of about sixty feet broad, beginning at the principal gate of the Prado, and terminating at a handsome portico that leads to the lecturing hall; and from north to south into three plots, two of which, the smallest, are appropriated to the use of the practical school of botany, and to contain such plants and perennials as have not been examined. Each of these plots is subdivided into four equal quarters, and these into as many other divisions, except the two upper ones, which have only three: in the centre of each there is a small fountain, whose waters are brought through subterraneous pipes from the two principal reservoirs intended for irrigation, which have their origin in a source near the Plaza de Toros, at

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* A fanega is a measure containing about a hundred weight; and a fanegada, the extent of arable land which takes a fanega of seed, about 1½ acre.

about a mile from the garden, and from two draw-wells situated at its western extremity. Each division is subdivided by walks a foot and a half broad into two hundred and eighty beds, two feet square, and half a foot deep, in each of which only one species of plant is cultivated. These divisions are enclosed by fences formed of common rose-trees (rosa gallica, Lin.); and between these and the beds there is a broad walk, with a border about three feet wide, in which different ornamental plants, most of them liliaceous, are symmetrically arranged at equal distances, in masses. There is externally, between the said fences of rose-trees and the walks of the garden, a border or platband about four feet broad, bounded on the outside by an edge of myrtle or box, about ten inches high, where large umbrageous trees, generally exotics, are planted, about eighteen feet distant from each other, the shade of which preserves in summer the plants of the school from the excessive heat of the sun, and without which they would inevitably perish. The spaces left between tree and tree are occupied by shrubs or dwarf-trees, which may be pruned; as the yew-tree, Viburnum tinus, Prunus laurocerasus, Rosmarinus officinalis, Ruscus aculeatus, &c.; or by those naturally of a fine shape, as the Robinia hispida and umbraculifera, Medicago arborea, Cytisus austriacus and laburnum, Spartium junceum, &c.; and by various herbaceous plants of ornament, such as iris, wall-flowers, columbines, different kinds of candy-tuft or rock-cress, dahlias, pæonies, common day-lily, and yellow day-lily, ranunculus, anemones, upright larkspurs, a great many varieties of common gillyflowers, speedwells, primroses, sun-flowers, star-worts, wild marygolds, and various others. The trunks of some robust trees are clothed with creeping shrubs, as ivy, virgin's bower, virginian silk-tree, trumpet-flower, Coccoloba sagittifolia, which flowers and fruits there in the open air; two kinds of sarsaparilla, Menispermum canadense, and some others. The divisions of the two plots appropriated to perennial and biennial plants of the practical school are divided into twelve parts, each containing twenty-four beds, disposed as we have already mentioned, and may hold about eight thousand species, a number which will not easily be collected there, considering the climate of Madrid, which is excessively cold in winter, and very hot in summer. It was projected that each bed should have an iron ticket, with the number of the bed, and the systematic name of the plant it contained, in Spanish; but this plan could not be carried into execution, owing principally to the want of funds. Consequently we were obliged to confine our tickets to the spot where each class, order, and genus began, that the number of the beds might not be lost, and might correspond with that of the systematic catalogue in manuscript, of which there are two copies. This catalogue was written by the author of this sketch in 1815, having before him the printed catalogues of the best gardens of Europe; and is arranged according to the sexual system, suppressing, however, the following classes — dodecandria, monoecia, dioecia, and polygamia.

The upper plot is appropriated principally to the cultivation of ornamental plants, and its walks to the reception during the summer of those plants which, from the middle of October to the middle of April or beginning of May, require to be kept in the green-houses. In consequence of this, though it is also divided into four quarters, the divisions are more numerous, and therefore smaller, and their interior division is changed, at least, once every two years, forming various figures in them, some regular, and others irregular. The transverse walks are considerably less wide than those of the two lower plots, and are all planted with umbrageous trees and fruit-trees alternately, whose shade in summer protects the flower-pots which are placed in the walks. These divisions are enclosed by fences made of rose-trees of various descriptions; as cabbage rose, red China rose, white rose, and others; while the circular plots of the crossings are crowned with a border in the manner of a garland, formed either of lavender, thyme, cat's thyme, sage, savory, sea-thrift, woolly-leaved mouse-ear, or others, and have in the centre a tree remarkable either for its handsome top or for its flowers. At each of their extremities there is a small wood planted irregularly, in the English fashion; and at the upper side of the division are two green-houses, 170 feet long by 30 wide, running from north to south, and presenting a handsome vista when seen from the promenade of the Prado. They are joined by the portico which we have said terminates the principal walk, and by two small parterres, situated between the extremities of each, and a vine bower. Each parterre has a little fountain, which furnishes water for all the squares in its side. The flower-pots are watered with watering-pots made of tin, which are filled at a beautiful fountain occupying the centre of a circular plot, which is almost in the middle of the large one, and at the junction of the four principal walks. In each of these two plots there are four stone seats, placed under the shade of the tufted trees which surround them, and which invite to repose those visitors who in the morning and evening of spring and summer are attracted thither through pleasure or curiosity.

All round the part of the garden which we have just been describing there is a walk, twenty-five feet broad, most of which, in summer, is shaded by the trees planted along the borders; the whole of the upper plot is embowered by a beautiful trellis, supported with iron arches, and formed by about twenty different varieties of vines. At the western extremity of this plot there is a green-house, facing the south, which contains about 4500 flower-pots. It is the best, or at least in better condition than the rest, in that establishment. A sloping bank, planted with resinous trees, among which there is the cedar of Lebanon, separates it to the south from the other part of the garden, of which we shall presently treat; and between the trellis-work and the wall that separates it from the Buen-Retiro, to the east, rises in the centre a building, in which there is a hall for delivering lectures, a seed-room, and another apartment, similar to the latter, which was formerly used as a library. On the left there is a very handsome basin, constructed in 1802, and another much older and half ruined, as well as one of the draw-wells above mentioned; and on the right another old basin, also in very bad condition, and a plot in which they prepare the different soils.

Near the principal gate, at the western extremity of the garden, is the other draw-well, and a house which was formerly inhabited by the chief gardener, and which now contains all the implements belonging to the botanical expedition of Santa Fé de Bogota.

In 1802, a stove was constructed for the plants of tropical countries; but during the war of independence it was so much neglected, that, in 1814, it was useless, and has never since been repaired. In the same year, 1802, one of the two green-houses situated at the eastern extremity, and facing the west, was fitted up as a library and herbarium; but both this building and its corresponding one were some years ago declared by the architect in a ruinous condition, and, notwithstanding the repeated applications to government for their re-construction, they continue threatening to bury beneath their ruins every thing which they contain.

The part which we have hitherto described is what principally constitutes the botanical garden of Madrid; it is much resorted to, and forms one of the most delightful spots of the capital and its environs. Its broad and straight walks, into most of which the rays of the sun can hardly penetrate; its situation on a gentle slope, which permits the whole to be seen at a glance; the great variety of trees, shrubs, and plants with which its walks are lined, each bearing a ticket in Spanish with its systematic name; the creeping plants which twine round many of the trees; the multitude of flowers which in the spring display their brilliant hues, and fill the air with their aromatic perfumes; the gentle murmur of the waters that run through the trenches, or are poured forth by the fountains; — all these, united to the harmonious songs of a variety of singing-birds, which have fixed their abode in the thickets, give to the botanical garden of Madrid a decided superiority over the other pleasure-grounds of that city, where the climate during the summer is excessively hot.

The garden is open to the public from the last day of the month of May to the last day of October, and from half-past four in the afternoon till dusk. All persons decently dressed are admitted, and it is very much frequented by the higher classes, and the royal family. In the morning, those only are admitted who are well known, and those who have a ticket of admission from one of the professors. The foreign ambassadors may go in with their families at any hour they please, and at all seasons, as well as any traveller who arrives at the capital, and who, if he be himself a professor or an amateur, is attended in his visit by one of the professors of the establishment, who presents him with a specimen of every living plant he may wish for, and, in case of the professor's absence, he is attended by one of the most intelligent gardeners. The students who choose to repair there are admitted at all hours.

The other smaller division of the garden, of which mention has been made, is situated to the south-east, and may also be divided into upper and lower parts. The latter is a prolongation of the inferior plot, extending over four or five fanegadas of ground, and separated from the rest of the garden by a fence formed of the common shrubs, hare's-ear, white-thorn, common privet, syringa, and common lilac. Two thirds of it form a single division, which is irregularly divided into smaller ones by means of winding walks, in the style of those in the English gardens. It is used also for rearing fruit trees, and as a depôt for the residue of plants which serve for the demonstrations, and for the medicinal herbs, which are given gratis to the public. The remaining third part, on which formerly stood the lecturing-hall, is used now as a kitchen-garden, in which are cultivated in small portions various kinds of vegetables, such as lettuces, cauliflowers, French beans, potatoes, onions, love-apples, egg-plants, cucumbers, melons, pumpkins, asparagus, &c. and some fruit-trees. This department is terminated by a yard, in which manure is collected, and where there is a house inhabited by the contractor, who furnishes the manure required for the garden, and who draws the water from the draw-wells.

The upper part, which is bounded by the Buen Retiro, and with which it communicates by a gate, forms a small acclivity, from which a great part of the city and its environs are seen. Its most elevated point, which cannot be watered, is planted with about thirty different varieties of vine, which are in bad condition. On the southern slope of this acclivity, which may be watered, there is about half a fanegada of ground used for the cultivation of different varieties of strawberries, garden-hyacinths, narcissus, and tulips, and of some shrubs for forming fences; about two fanegadas and a half are employed for rearing in small quantities the cerealia, and another portion, about a fanegada, for the cultivation of the Arundo donax, whose reeds are used in various ways in the garden. Lastly, another fanegada is employed as a nursery for trees affording shade, and for some different varieties of olive-trees, and other fruit trees which are cultivated in the Peninsula. A walk some twelve feet broad surrounds this part of the garden, and has on both sides, in that part where the vineyard is, a palisade, which is covered over by various varieties of vines cultivated for the table; and with respect to the kitchen-garden, it has on its borders fruit trees, with gooseberry-trees between.

The seeds of all plants, with the exception of the cerealia, and of some trees and shrubs of Europe and North America, are sown in flower-pots, and in the open air, towards the end of January or beginning of February, and this continues till April, and sometimes till May, and even June. Generally the seeds gathered in the garden itself are the first that are sown, beginning with those families which can best endure the severity of the season. From the year 1816, the umbelliferous plants, cistineæ, gramineæ, perennials, and several others that will live in the open air, have been sown in autumn; it being observed that their germination was more certain than if they were sown in the spring, and that annual umbelliferous plants so managed grow and fruit much better, the generality of those sown in spring being destroyed by the first heats, without permitting their fruit to ripen, and frequently even before they were in bloom. The cerealia are sown generally in the months of October and November, and it is certain, that the plants sown at this season are more productive than those which are sown at any other period of the year. We have, however, observed that several kinds of wheat, barley, and rye, which have hitherto been considered as suitable to winter, have, when sown in February, and even at the beginning of March, yielded enough to compensate handsomely the labours of the husbandman. The millet (sorghum vulgare) and maize cannot be sown until the frosts and white frosts are over; that is, till the month of April or May; and to insure a crop of seed, they must absolutely be irrigated.

The pruning of umbrageous trees takes place in the fine days of January and February, as also that of fruit-trees, and of vines. The roots of many herbaceous, perennial, and shrubby plants of the valley of Mexico endure, in the open air, the severity of the winter at Madrid, where it often freezes sharply, particularly in the months of December and January, and they yield fresh shoots in the spring; these plants are the Dahlias, Steviæ, Salvia mexicana, melissodora, chamædryoides, angustifolia, dolistachya (Lag. MS.), canescens, Lag. polystachya, fulgens, Zaluzania triloba, Anthemis globosa, different species of Solanum, Physalis, Helianthus, Coreopsis, and the Oxybaphus cervantesi (Lag. MS.), Mirabilis jalapa, dichotoma, and longiflora, Boerhaavia arborescens, Viola verticillata, Ort. Ceanothus cæruleus, Acacia acanthocarpa, strombulifera, ceratonia, flexuosa, and others; while the Lavandula dentata, multifida, abrotanoides, and many other spontaneous plants of the south of Spain, perish. The Chamœrops humilis bears the open air, and the Ceratonia siliqua lives when it is sheltered from the north by a wall; it blooms, but it never bears fruit.

The whole garden, except the hillock planted with vines, is watered at the roots; but previous to the year 1802, the beds of the divisions, which were differently laid out, were watered with a garden engine, with the water of the fountains. Water becomes very scarce in the hot months, and even the draw-wells become dried up, which occasions many plants to perish in the months of July and August; while in winter there are many that die for want of stoves, and on account of the bad condition of the green-houses. Notwithstanding these serious inconveniences, I succeeded, in 1822, in keeping there about 6000 plants, a number very superior to that of the collection previously

Among that number, the gramineæ, of which there were six hundred species, excelled the rest, without, however, reckoning the magnificent collection of cerealia, the families of compound flowers, umbelliferæ, cruciferæ, cistineæ, malvaceæ, papilionaceæ, solanaceæ, and the genus silene. There is also a good collection of succulent plants, particularly of the genus of cactus and aloe.

This garden has a considerable library, in which very few books published before the year 1804 are wanting. In that year the illustrious Cavanilles dying, his library, which had been bought from him by government during his life-time, was added to that of the establishment; but from that period up to 1814 it hardly increased, except by the addition of some books on belles lettres, bought from the heirs of Cavanilles for ten thousand reals (100*l.* sterling). From 1814 till 1823 several applications were made to government; but the acquisitions made during that period hardly amount in value to 500*l.*, when 3000*l.* would have barely sufficed to buy the many expensive works on botany and agriculture that were published both in Europe and America, without the perusal of which it is not easy to publish works in which repetitions of what has already been said should not occur.

This garden possesses one of the most copious herbariums in Europe, which I calculate amounts to about 30,000 species. The formation of it began in the autumn of 1801, with the collection made by the celebrated Don Luis Nee in his voyage round the world with Malespina, and with what he himself collected before and after that voyage, in Spain, all which amounted to about 12,000 species. It was afterwards enriched with those sent by several Spanish corresponding members residing in different parts of Europe and America, with the collection made in the island of Cuba by the celebrated Don Baltasar Boldo, with those which I myself collected in 1808 during my journey to the Asturias, with those afterwards collected in the Andalusias by Don José Demetrio Rodriguez, and Don Simon de Roxas Clemente, and in Santander by Don Bernabe Salcedo, with those published in the Flora of Peru and Chili by Ruiz and Pavon, and finally with all the herbarium of Cavanilles, who possessed a great collection of plants, presented to him by the most celebrated botanists of Europe of his time, and which I believe amounted to more than 18,000 species. The illustrious Cavanilles bequeathed his herbarium to the botanical garden, under the condition of my receiving a specimen of every duplicate plant in his collection. In the garden of Madrid there also exists the extensive collection of the celebrated Don José

Celestino Mutis, part of which was made in New Spain by Sesse and Moçino; and that which Don Tadeo Haenke formed in South America, the whole of which, by previous orders of government, is to be added to the herbarium of the Flora of Peru and Chili, when this work shall have been published, as well as that which remains of the Flora of Mexico. The herbarium was moreover increased yearly with the new or rare plants which were reared in the garden itself, and with those sent by the various correspondents of the establishment.

The garden of Madrid also possesses the magnificent collection of drawings from the botanical expedition of Santa Fé de Bogota, which, during the period of forty years, was under the care of the celebrated Don José Celestino Mutis, and which, if my recollection does not fail me, consisted of 6969 drawings, half of which are in black, and the other half coloured, but all executed in the most superior style; there are also several manuscripts by Mutis, and a few by the unfortunate Don José de Caldas; a great number of specimens of the woods which are found in the kingdom of New Granada, now Columbia, and some boxes of fruits, seeds, barks, resins, and other vegetable productions of the same country.

It also possesses some manuscripts by Don Luis Nee, and some hundreds of drawings of plants, which he caused to be made during his voyages with Malespina. With respect to the manuscripts and drawings belonging to the Flora of Mexico, of Sesse and Moçino, there are only four folio volumes of MS., and about 150 of the drawings which were made at the beginning of the expedition. Of the others, which the celebrated Decandolle saw, and caused to be copied, nothing is known.

The MS. of the Flora of the Island of Cuba, written by the deceased Don Baltasar Boldo, was lost during the war of independence, and there remains only one volume of the drawings of plants executed by the deceased Gino, which belonged to the same expedition.

Lastly, there are 100 drawings of the first volume of the Hortus Matritensis of Cavanilles, the plates of which were begun in the year 1804, and the incomplete MS. which he left of that work.

The garden of Madrid had, in 1823, a professor and a vice-professor of botany, another of agronomical botany, a librarian, a treasurer, a chief gardener with two assistants, eleven permanent gardeners, divided into three classes, three or four supernumerary youths, and a porter. Besides these, there were sixteen or seventeen daily labourers. A contractor furnished the necessary manure, and kept in the summer months the draw-wells at work for 11,000 reals (110*l.* sterling), and inhabited the house and yard which adjoin the garden.

In 1805, the building which existed from the foundation of the garden, at its southern extremity, and which was used as a lecture-room and a habitation for the professors and persons employed in the branch of cultivation, was pulled down as ruinous.

Its annual allowance is 190,000 reals (1,500*l.* sterling), which sum being never sufficient to cover the expenses, recourse was had to other funds to pay the salaries of the professors, which were never fixed, and to defray the expenses incurred in repairs, &c. Of the above sum, 150,000 reals was paid from the funds of the Board of Pharmacy, and the remaining 40,000 reals required to complete the salaries from the public treasury.

I could never ascertain what sum the government spent in the construction of this botanical garden; but I remember having heard an individual of the board of physicians say, that that board alone had furnished about five millions of reals (50,000*l.* sterling), and I have no doubt that it cost more.

From the end of 1816 the direction of the establishment was in the hands of the professors of botany and of agriculture, of the librarian, and of the chief gardener, in direct communication with the junta called that of the Protection of the Museum of Natural Sciences.

In 1823, botany and agriculture were taught there. The term of the former began on the 1st day of April, and ended on the last day of October, three public lectures being given in the week, the vice-professor repeating the corresponding demonstrations of the last lesson explained by the professor. In the months of July and August are the vacations, and during this period the garden is open to all the students who choose to pursue their studies, from six in the morning till dusk. They are furnished with all the necessary books, and with whatever plants they may wish to examine, having moreover permission to consult either the professor or the vice-professor, who are on the spot examining the plants of the present sowing, and those which had not been examined in the year before. During this period, too, the students exercise themselves in the art of describing plants, and in writing memoirs on particular points previously fixed by the professor. Besides this, the scholars, attended by the professor or vice-professor, are also in the habit of going out of Madrid to botanize in its vicinity, in some of the days of June, July, September, and October.

The class of agriculture, or rather of agronomical botany, founded in 1807, begins in the month of February, and closes on the 30th October, three lessons being there given also in the week. Although this school was established in 1807, the instruction lasted only from 1810 till 1811, under the direction of Professor Don Esteban Boutelou, who died in 1812. At my suggestion, the school was opened again in 1815, under the direction of Professor Don Antonio Santalio de Arias y Costa. In the same year the school of medical botany was opened under the direction of Dr. Don Vicente Soriano; it also was founded in 1807, and re-established, like the former, at the above-mentioned period. The garden has not the requisite extent to execute at large agronomical operations, neither does it possess any great collection of agricultural machinery; nor is there collected any considerable number of species and varieties of fruit-trees, olives, vines, and other plants cultivated in Spain, except the cerealia, the collection of which, doubtless, is very superior to that of any garden in Europe; nor is there any stabling for horses or cattle; but the students are present at all the operations which are executed in the garden, and have a little practice in pruning some of the vines, and performing grafting. This class, as well as the garden, would have increased considerably if the constitutional system had continued; the Cortes having bestowed for that purpose the contiguous garden of the Geronimites, which has about forty fanegadas of land, with a great abundance of water for irrigation, and a part of the building belonging also to that convent.

During the two hottest months there are also vacations in this class, and the students then employ themselves in writing memoirs on those points previously fixed by the professor who is at the head of it.

In order to be able to obtain a diploma for the course or term, the student must first submit to the examination which takes place at the end of each term.

The information diffused through the means of the botanical garden of Madrid is not limited to the students who attend the various schools there established. The professors keep up a literary intercourse with the corresponding members of that establishment who reside in various parts of the empire; they answer the questions which any of them, were he even in the remotest corner of the Spanish dominions, may choose to put; and they send them plants, &c., and receive things from them, for which purpose all letters, packets, and even boxes of plants and seeds, either from any part of Spain, or from abroad, are received free of postage. Besides this, the professors of the garden have, from the time of its foundation, been frequently consulted by the government in every branch relating to the science of botany, and these consultations have occupied much of their precious time.

The garden of Madrid was in open correspondence with the principal gardens of Europe and America, excepting England, where their only correspondent was Aylmer Bourke Lambert, Esq., to whom they were in the habit of sending annually some thousands of seeds, and who, in his turn, sent considerable numbers of those which were asked of him. The garden made great acquisitions by the annual collections sent from the island of Cuba by their corresponding member Don Mariano Espinosa, to whom the government, in consequence, assigned 400*l.* sterling a year, from 1805; by those sent from Mexico by Don Vicente Cervantes; and by those sent by the different members and amateurs throughout the Peninsula. It is in consequence of this that the greatest part of the plants of Cuba, Mexico, and South America, reared in the botanical gardens of Europe for the last forty years, were communicated to them through the botanical garden of Madrid; such are, among many others, the cobea, stevias, many and very beautiful salviæ, mimosæ, solanaceæ, malvaceæ, compositifloræ, gramineæ, onagrariæ, and leguminosæ.

The schools of this establishment have been always very well attended, both by students and hearers; the establishment itself enjoyed great reputation in the nation; its professors having diffused much valuable information, not only in the way above hinted, but by the numerous and estimable writings which, during the seventy-one years it existed, have been published, and which amount to more than eighty volumes, including translations. It is to this establishment that the information, not only in botanical matters, but in those of agriculture, and the taste introduced into Spain for the other branches of natural sciences, is owing.

The garden of Madrid furnishes the public gratis with all the medicinal plants which it possesses, and with great quantities of seeds of umbrageous trees, ornamental plants, as well as those of pasturage, and other useful ones, both in husbandry and pharmacy; so that three men are continually employed in preparing boxes of seeds to send as presents to private individuals, and to foreign gardens in the way of exchange.

Such is, briefly, the state in which the botanical garden of Madrid was in 1823, when the liberty of Spain was overturned, and with it the hope of seeing established the botanical gardens decreed by the Cortes in 1821, in their regulations for public instruction, in which a garden was ordered to be erected in every capital of a province throughout the Spanish monarchy; six others in as many schools of the medical sciences, and three great rural establishments, or practical schools of agriculture, in Spain, and various others in the Canaries, Cuba, and other parts of the Spanish ultra-marine possessions. The hope of seeing the results of so many voyages made for promoting natural history, at so extraordinary an expense, by the Spanish government, published, has also vanished. A fugitive and a proscript from my native country from the moment liberty perished there, and deprived of the power of communicating with those unprejudiced individuals who alone could inform me of the truth, I am totally ignorant how matters stand there. However, through persons worthy of credit lately arrived from Spain, I am informed that the School of Agriculture has been closed, because its professor Arias, who was at the head of it, was declared *impurifiable;* that in 1824 the School of Botany remained closed, that in 1825 it opened only in the month of July; that during the period of the two last years the cultivation of the garden has been greatly neglected, as the labourers were not paid; that the librarian, Don Simon de Roxas Clemente, has been banished from Madrid in consequence of his having been a deputy of the Cortes in the years 1820 and 1821; that several of the oldest and most skilful gardeners of the establishment have been dismissed from it, in consequence of having belonged to the National Militia of Madrid, and having followed the constitutional government to Cadiz; and, lastly, that in the summer of 1825 the said librarian was recalled.

(*To be continued.*)

ART. II. *Notices of three New Keeping Pears.* By JOHN BRADDICK, Esq. F.H.S.

Dear Sir,

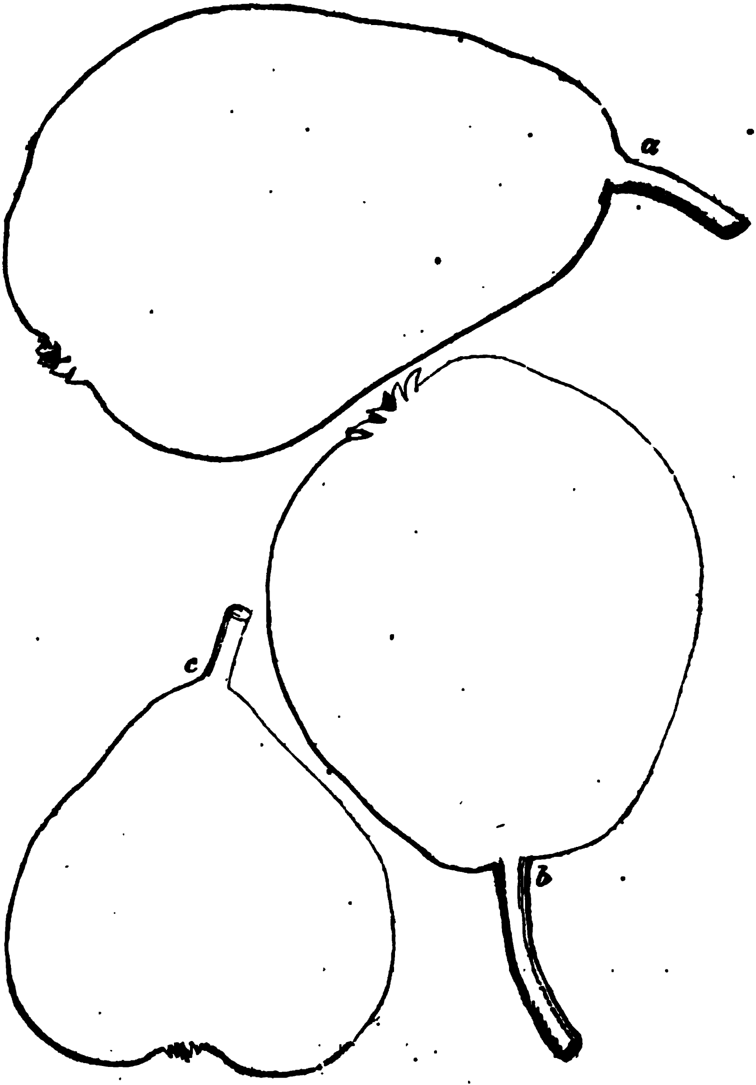
IT was my intention to have sent you some fine specimens of new keeping pears to be noticed in the next number of the Gardener's Magazine; but I am greatly disappointed, owing to the room in which I am at present constrained to keep my fruit not being proof against rats and mice. The only sorts which those vermin have left me I now send you, as follows:

Surpasse St. Germain; the large brown and green pear (*fig.* 45. *a, full size*). [An excellent fruit, the best of the three. *Con.*]

Grande Bretagne Dorée; the middle-sized yellow pear (*fig.* 45. *b, full size*). [An excellent fruit, with a peculiar terebinthinate flavour. — *Con.*]

Prince de Printems; the small green pear (*fig.* 45. *c, full size*). [Sugary and melting, but eaten rather too soon to judge fully of its merits.—*Con.*]

45



Buds of these pears were given to me, about seven years ago, by Mr. Louis Stoffells of Malines. The fruit has been exhibited at meetings of the H. S. Those now sent to you grew against a N.W. wall at my cottage, Thames Ditton. If you find either of these pears worth notice, mention it in your next number. Very respectfully, I am,

My dear Sir, &c.

Boughton Mount, JOHN BRADDICK.
Maidstone, 8th April.

ART. III. *Dalhousie Castle & Gardens; the Botany of the Neighbourhood, and various Remarks.* By Mr. JOSEPH ARCHIBALD, C.M. H.S., upwards of Nineteen Years Gardener there.

Dear Sir,

I HAVE taken the liberty of sending you a few observations, made during my residence at Dalhousie Castle. If you consider them deserving a place in your excellent miscellany, the "Gardener's Magazine," it will be very gratifying to me to have contributed in the least possible way to the usefulness of such an interesting work.

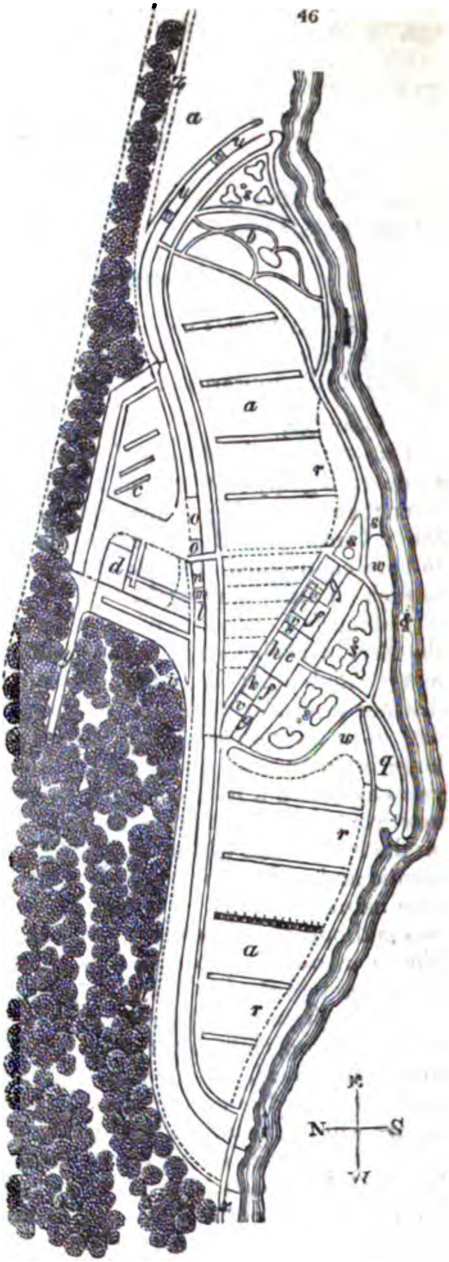
Dalhousie Castle, one of the seats of the Right Honourable the Earl of Dalhousie, is situated about eight miles south-east from Edinburgh; two miles from Dalkeith, and the like distance from Lasswade. It is a very ancient structure, the date of its erection not being, I believe, correctly known. A large addition, and considerable alterations, were made ten years ago, and it is intended to commence the building of a new front to the north, this summer. It is delightfully situated on the north bank of the South Esk, the scenery is very romantic and varied, the rocky banks of the river being adorned with natural oak, &c. The principal approach from the north was laid out, about twenty years ago, by the late Mr. Walter Nicol; a great improvement in it is proposed at the main entrance, by bringing the carriage-road over a small brook, and through part of a plantation. It is also intended to extend the approach from the south, to about one-fourth of a mile to the southward, as soon as the public road can be removed to the westward. By this means, a very fine bridge of three arches will be included in the pleasure-grounds.

Since I entered his lordship's service in 1807, nearly two hundred acres have been planted; partly in belts, for shelter on the high grounds; but the greater part for ornament, and cover for game. Some of the banks of plantation near the Castle, planted about thirty years ago, are now being converted into oak coppices.

I now beg to give you a short description of the garden and hot-houses, which were the design of Mr. John Hay, garden architect, Edinburgh, in 1806. The garden (*fig.* 46.) is on the north side of the river, about one fourth of a mile east from the Castle, and contains nearly four acres. The plan is certainly very different from, and in effect far surpasses the ordinary mode of enclosing gardens by straight walls, in the form of squares or parallelograms; the wall here, which is fifteen feet in height, having been built in a curved and winding direction, to suit the adjacent ground. The situation has been much admired by every person of taste who has visited it: one particular beauty consists in the natural fence on the south side, being perpendicular, rugged rocks, to the depth of from 30 to 40 feet to the bed of the river, with a walk along the top. The range of glazed houses is 203 feet in length, consisting of a green-house in the centre 56 feet, two vineries 77 feet, and two peach-houses 45 feet each; with an excellent room on a level with the top of the green-house stage, where are deposited some beautiful specimens of natural history, and a few useful books on botany, gardening, agriculture, &c.

The details of the garden exhibit

46



(*a*) Quarters for vegetables, small fruit, &c.
(*b*) Borders and plots for American plants.
(*c*) Melon ground.
(*d*) Gardener's house.
(*e*) Greenhouse.

(f) Vineries.
(g) Peach-houses.
(h) Fruit-room.
(i) Mushroom house.
(k) Potting shed.
(l) Gardener's room.
(m) Water-house.
(n) Tool-house.
(o) Coal-shed.
(p) Open-shed.
(q) Bank of Rhododendrons, &c.
(r) Line of variegated Hollies.
(s) Flower-plots and short grass.
(t) Sunk-fence.
(u) Four divisions of the flued wall.
(v) Stock-holes.
(w) Shrubbery borders.
(x) Walk towards the Castle.
(y) Cart-road to the Garden.
(z) Road to Dalkeith.
(&) South-Esk.

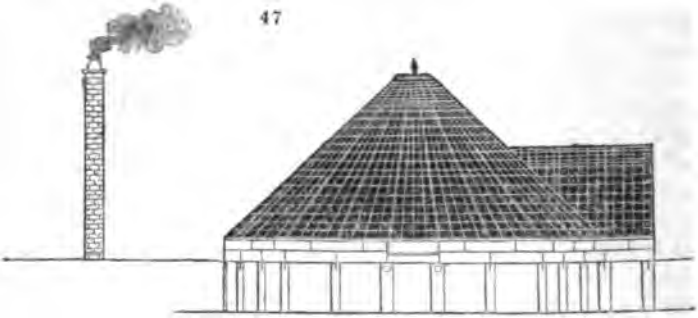
The greater part of the soil in the garden is a very strong clayey loam, consequently unfavourable for early cropping, but producing excellent crops of vegetables for Autumn and Winter.

The peach and nectarine trees and vines in the houses have generally been very productive. In one of the vineries, however, a defect took place several years ago, and was getting worse every succeeding season; about the time when the grapes began to colour or approach to maturity, the berries got shrivelled; sometimes the shoulders and lower extremities of the clusters, and occasionally whole bunches were rendered useless in this way; the several sorts of Frontignac were most subject to this failure, and a great proportion of the vines in that house, are of the different varieties of this grape; viz. white, black, red, and grisley. Many and various conjectures were formed as to the cause, one of which was, that the roots had in all probability got through the border, which was formed fully three feet deep, was well manured and mixed by repeated trenching, and into the subsoil, which is gravel and sand; I accordingly determined to make the following trial, and in the Spring of 1824, took the breadth of four sashes in the centre of the house, and removed all the surface soil to the depth of eighteen inches, and to the whole breadth of the border outside the house, working with forks for the safety of the roots; all of which were then brought up, and cut back to various lengths, most of them being totally destitute of small fibres; I had been correct in supposing that they had gone very deep. I now proceeded to lay them in different strata, none of them deeper than eighteen inches, among the surface soil, having previously mixed with it some well rotted cow-dung, and decayed leaves of trees. In consequence of this severe check, the vines made very weak shoots the following Summer, and bore a scanty crop, but none of them were shrivelled; last Autumn they bore a full crop, both the fruit and wood ripened sooner than in the other parts of the house, and no shrivelling appeared.

Having left his lordship's service in November last, owing to an alteration and reduction having taken place in the establishment, I was prevented from treating all the rest in the same way, which I intended to do. The above hint, I hope, may not be entirely useless, as I have often heard the same defect complained of, and generally the cause assigned is that of allowing too weighty a crop; this, however, I may venture to say I have disproved. I understand that some vines have lately been treated in nearly the same way at Colzean Castle, the seat of the Earl of Cassilis, but I have not heard the result.

Connected with the above subject, I have taken the liberty of sending you a sketch of a circular vinery, which I designed for General Durham of Largo, in Fife, (*fig.* 47.) It is similar to one in Mr. Robert Fletcher's commercial garden at Bonnyrigg, near Dalhousie, invented by himself. He is an old man, of very eccentric habits. In this case he was his own architect, bricklayer, carpenter, glazier, painter, &c., having executed all the work with his own hands. I have witnessed for many years excellent crops in this house, and, as a proof that the grapes are of a superior quality, he has invariably obtained the highest market price. The kinds he cultivates are confined to black Hamburgh, black Lombardy, and white sweet-water. The soil round the vinery is only from one foot to thirteen inches deep, and the subsoil is a hard impervious clay. He has repeatedly told me, that in preparing the border, before planting the vines, he merely dunged and dug the ground, as if for a crop of cabbages or potatoes, neither has it ever been manured or turned over since; and is now trodden as firm and hard as any old beaten path. He is by no means particular about giving air, the temperature being often above 100° of Fahrenheit in the Summer months, and whenever air is admitted, it is merely by the door-way, and a small hole at top, all the sashes being fixed. For several years at first he raised very good crops of grapes without fire heat; but in one particularly backward season, the wood not being properly ripened, he set about building a furnace and flues. General Durham has informed me that his grape-house of this construction (*fig.* 44.) has succeeded admirably.

47



I beg to be understood, that I by no means recommend a circular vinery in preference to any other form, being convinced, that under the same quantity of glass in any of the ordinary ways of constructing vineries, the same, or a greater quantity of grapes may be grown; neither do I pretend to determine the precise depth that a border for vines ought to be; but, one thing I have attempted to prove, namely, that excellent crops of well-flavoured grapes may be obtained, without being at the expence of making borders three feet or more in depth.

To finish my account of the garden at Dalhousie Castle, allow me further to mention, that, since the year 1817, extensive collections of plants have been sent home from Canada and Nova Scotia by the Countess of Dalhousie, a lady, whose zealous and indefatigable exertions in botanical matters have seldom, I think, been surpassed; perhaps not often equalled; few having attained such proficiency as her ladyship in the science.

The following more rare natives of North America have flowered in great perfection at Dalhousie Castle; viz.

Epigæa repens,
I may venture to say, without the fear of contradiction, that this beautiful little plant was never seen in greater perfection in this country.
Arethusa bulbosa,
Cypripedium spectabile,
— pubescens,
— parviflorum,
— humile,
— arietinum,
Nuphar advena var,
The leaves of this variety float on the surface, whereas the leaves of the original N. advena, rise out of the water.
Mitchella repens,
I had a patch of this plant covering a space three feet by four feet and a half.
Cymbidium pulchellum,
Pogonia ophioglossoides,
Habenaria blephariglottis,
These two were figured in Dr. Hooker's Exotic Flora; the last of them having flowered for the first time in this country.
Orchis macrophylla,
Habenaria fimbriata,
Sarracenia purpurea,
— variolaris,
Primula mistassinica,
Pyrola asarifolia,
Glycine monoica, the Amphicarpa monoica of Nuttall,
Gerardia purpurea,
Goodyera repens,
— pubescens.

The Arethusa Pogonia, Habenarias, Sarracenias, Cymbidium, and some others, I found to thrive best in large pans filled with sphagnum, without any other soil, and placed in a pit or hot-bed frame.

As it may not be uninteresting to some of your readers, I have enumerated below a few of the rarer native plants, which grow in the neighbourhood of Dalhousie Castle; some of them do not appear to have been taken notice of by botanists, as having been found in the places mentioned.

Circæa lutetiana,
Veronica montana,
Schœnus compressus,
Milium effusum,
Melica nutans,
Bromus asper,
Plantago media,
Galium mollugo,
Pulmonaria officinalis
Symphytum tuberosum,
Campanula latifolia,
Solanum dulcamara,
Erythræa centaurea,
Vinca major,
Gentiana amarella,
— campestris,
Sanicula Europæa,
Œnanthe crocata,
Sisou inundatum,
Peucedanum Silaus,
Angelica sylvestris,
Chærophyllum odoratum,
Galanthus nivalis,

This plant is found in great abundance at Arniston, even to the extent of acres being covered with it.

Allium ursinum,
Narthecium ossifragum,
Luzula pilosa,
Epilobium angustifolium,
Daphne laureola,
Convallaria multiflora,

I found several plants of this, evidently, I think, in a wild state, in an old wood on a rocky bank of the S. Esk, near Dalhousie Castle, where, to all appearance, it has been established for a long time, and where there is little chance of its having escaped from any garden.

Acer pseudo-platanns,
— campestre,
Adoxa moschatellina,
Pyrola rotundifolia,
— minor,

This last species of Pyrola is found in great abundance at the Roman camp near Dalkeith, and in several other places in this neighbourhood: what appears singular to me, is, that I have frequently found it in large patches in young plantations from twelve to twenty years old, where the ground has evidently been cultivated before planting, and no appearance of the plant growing in the uncultivated ground in the vicinity, although the soil is exactly similar, and the surface, to all appearance, has never been disturbed. A proof of this may be seen in a plantation near the foot of the village of Dalhousie.

Saxifraga umbrosa,
Arenaria trinervis,
Sedum Telephium,
Euphorbia exigua,
Pyrus aucuparia,
Spiræa salicifolia,
Rubus saxatilis,
Rosa spinosissima, with red petals,

This is the Rosa Ciphiana of Sir Robert Sibbald, first observed by him growing on his own estate near Edinburgh. It has been found in several other places since his time. From Kirkhill, about a mile above Dalhousie Castle, where I believe it was first discovered by Mrs. Halliday, then residing in Kirkhill-House, and where it is growing abundantly, I sent plants of it to the Botanic Garden at Edinburgh, and also to Mr. Sabine, for the London Horticultural Garden. It is pretty generally known, that it was from the seeds of a variety with reddish petals, that the Messrs. Browns of Perth first raised the double varieties of Scotch rose, now so much and justly admired; but whether their variety was exactly the same as this, I am unable to determine.

Trollius Europæus,
Ajuga reptans,
Betonica officinalis,
Stachys ambigua,
Melampyrum pratense,
Lathræa squamaria,

This singular plant, certainly parasitical, grows in considerable quantities in several places about the banks of the north and south Esk. It is worthy of notice that it is found chiefly under elms at Dalhousie Castle, under thorns at Arniston, and beech-trees at Melville Castle. I have never been able to cultivate it, although I made frequent attempts; having also sown ripe seeds, but never saw it appear the second year after planting. My friend Mr. James Walker, however, gardener at Melville Castle, has succeeded in transplanting a patch of it, by removing with it a large portion of earth, and of course part of the root to which it was attached; he has planted it in a border among rhododendrons, where it has come up and flowered for several years.

Cardamine amara,
Hesperis matronalis,
Geranium sylvaticum,
Malva moschata,
Vicia sylvatica,
Hypericum hirsutum,
Leontodon palustre,
Hieracium aurantiacum,
— sabaudum,
Cnicus eriophorus,

Scarcely indigenous, but found abundantly on the banks of the north Esk, below Melville Castle.

Eupatorium cannabinum,
Solidago virgaurea,
Doronicum pardalianches,
Anthemis arvensis,
— cotula,
Gymnadenia conopsea,
Habenaria viridis,
— bifolia,
Neottia nidus-avis,

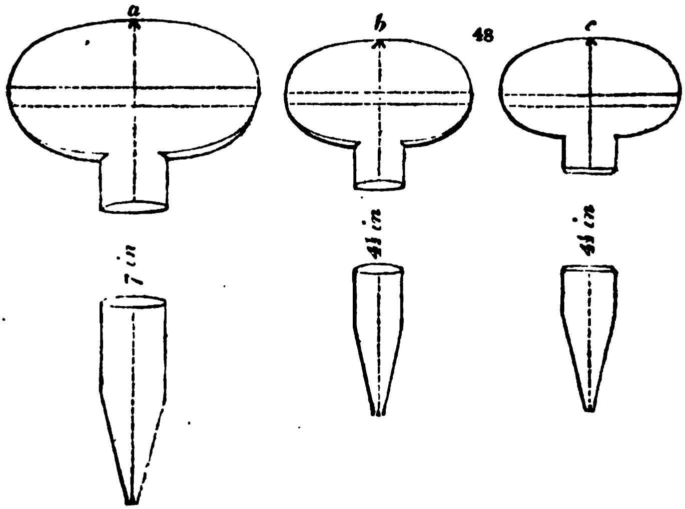
This rare plant is found occasionally in the woods about the banks of the Esk, but by no means abundantly. I am not aware that it has been taken notice of, but it appears to me to be only a biennial, or, at least, the same plant seldom or ever flowers twice; as I have often seen decayed flower-stalks of the preceding year, without meeting with any fresh plant near, and when the roots are taken up they appear as dead as the flower stems, I do not know that it has ever been cultivated. When the plant is taken up in flower, I have very rarely seen a bud for a flower-stem for the following year, as is the case with most other orchideous plants. It is also remarkable that a plant which produces such abundance of seed should be so rare. I have sometimes met with a single plant in flower, and after looking carefully in the neighbourhood, failed in finding another. I am inclined to think, that all or the greater part of the plants that flower, are from self-sown seed, but how long after these seeds vegetate, before the plant flowers, I believe, is yet to be ascertained.

Listera ovata,
— cordata,
Epipactis palustris,

I first found this scarce plant in 1824 in company with Mr. James Hutchison, now gardener to the Earl of Cassilis, at St. Margarets, Isleworth, in marshy ground near the Roman camp, Dalkeith, in considerable abundance; I am pretty certain the first time it was observed in that situation;—although there are plenty of plants, few flowers are produced, partly owing, I think, to the cattle eating it over when in a young state.

Carex paniculata,
— axillaris,
— pendula,
— strigosa,
— sylvatica,
— paludosa,
Quercus sessiliflora. E.B. 1845.
Salix repens,
Populus tremula,
— nigra,
Equisetum fluviatile,
Ophioglossum vulgatum,
Botrychium lunaria,
Blechnum boreale,
Scolopendrium vulgare,
Aspidium fragile,
— dilatatum,
— aculeatum,
— oreopteris,
Polypodium phegopteris,
— dryopteris, &c. &c.

I have enclosed a sketch of a brass mould of my own invention (*fig.* 46.) for casting leaden tallies, with accompanying specimens (*fig.* 48.); the largest (*a*), I used for plants

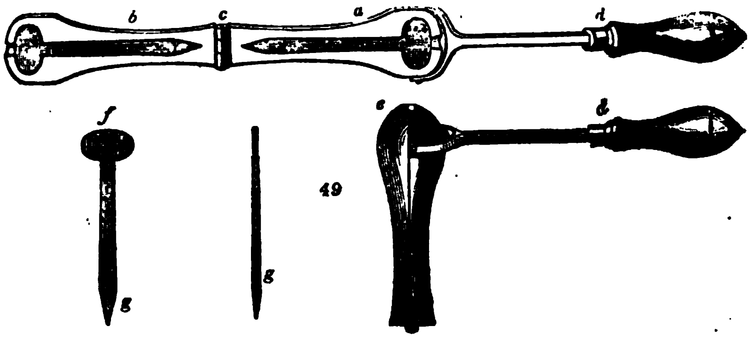

48

in the open borders; the next size (*b*) for plants in pots; and the thinnest (*c*), not cast, but which is cut out of sheet-lead, for an extensive collection of geraniaceæ. If you think them worthy of being taken notice of, I leave it to you to describe them.

I remain, dear Sir, &c.

Edinburgh, Archibald Place, JOSEPH ARCHIBALD.
25th Feb. 1826.

The mould alluded to consists of two parts (*fig.* 49. *a, b,*)


49

joined together by a hinge (*c*). One of the parts is furnished with a handle (*d*), which serves to shut the mould, and hold it while the operator is pouring in the melted lead at a small orifice (*e*). The tallies (*f*) cast in this mould, are thickest at the lower end (*g*); those of the larger sizes are thickest at the neck (*fig.* 48 *a, b, c.*)—*Cond.*

Art. IV. *On Field Gardening, and on the Gardens of Farm Servants in Scotland.* By Verus of Berwickshire.

Sir,

I have perused the first number of your Magazine with much satisfaction, and am disposed to believe that amateur and professional gardeners may derive much benefit from such a work, provided it continues to be conducted with the like spirit and judgment as is displayed at its commencement. It was my intention to offer a few remarks upon some of the articles that you have presented, but as the copy sent me is in the hands of a neighbour, it is out of my power at this time to fulfil my intentions. Suffice it to say that the remarks were of an approbatory nature, and, as such, were rather calculated to illustrate the subjects discussed than to censure or condemn any thing that was stated. In short, whilst the work promises to be useful to the public, there is every probability that it will not only add to the character of its conductor, but also prove of advantage to the publishers.

Though these are my sentiments with regard to the nature of the work, as it presently stands, it strikes me that the original design might be greatly improved by including, what I call, Field Gardening, amongst the subjects mentioned in the prospectus. The husbandry of the field, in various districts, is now conducted with as much neatness and regularity as can be displayed in the best managed gardens, and, in point of fact, there is no difference betwixt culture in the one case and culture in the other, except that field-gardening is carried on upon a greater scale than the husbandry, as you must allow me to call it, of a garden. I have seen fields of beans, consisting perhaps of fifty acres, and fields of turnips of the same extent, all as neatly rowed in drills, at intervals of twenty-seven inches, and as carefully dressed by the horse-hoe as I ever witnessed the crops of the best managed garden. Now, to treat of these matters surely cannot be inconsistent with the work you have undertaken; on the contrary I am disposed to reckon, that were you to intimate that articles concerning the cultivation of the fields would be acceptable, the utility of your work would be vastly increased. Mistake me not. I do not recommend the introduction of what is called Political Economy, because I am aware that any thing of that nature would lead you into a wider field than can be conveniently occupied; nor do I mean that the management of live stock, or any matters which relate to grass-land, should be taken up. No; the recommendation given extends no farther than the cultivation of the soil, and the management of the crops that are produced upon it; and I am almost convinced that were that recommendation adopted, the majority of your readers would be highly gratified.

As the pen is in my hand, allow me to say a few words concerning the gardens of farm servants in the low country districts of Scotland, because some advantage might likely arise were that system imitated in every part of England. You know, quite well, that married servants are usually employed in Scotland, who have a house upon the farm contiguous to the homestead, to which a small garden is connected, and whose wages are chiefly paid in kind, that is, in corn, with maintenance for a cow all the year round, and a certain portion of ground in the fields for potatoes, which ground is ploughed, manured, and horse-hoed by the master, the servant having no more to do than to provide seed for planting the space allotted to him, to clean the ground so far as hand labour is required, and to dig up the crop afterwards. The weight of the crop, in general cases, may be about one and a quarter ton, often more, and that quantity is sufficient to supply the consumption of a family through the winter, and sometimes, with the aid of skimmed milk, to feed a pig, if the female is a good housewife. In short, servants paid in this manner are much better off than those paid in money, and are even more comfortably situated than the great body of artisans and manufacturers, as may probably be more amply explained on some future occasion. But to come to the object particularly in view, each servant has a garden immediately behind his dwelling-house, of sufficient size for producing early potatoes and pot-herbs for the family. This garden is generally enclosed by a stone wall, or, to speak correctly, the whole gardens of the servants are included in one inclosure, each being separated from the other by a footpath. Dung for manuring the garden is always allowed by the farmer, and the labour of digging, planting, and cleaning, is executed by the servant at bye-hours, or in the evenings after the labour of the day is finished. Here you will observe, that married servants being engaged for a year, the digging of a garden cannot commence sooner than the beginning of March, or when hiring time is over, which to a certain extent is detrimental, though, in point of fact, it cannot be avoided. The first object is to plant cabbages, an article never neglected, as farm servants in Scotland live much more upon barley-broth, cooked with vegetables, than their brethren in England. The next step is to plant early potatoes, and of these a sufficient quantity is generally raised to serve their families from the middle of July till the field potatoes are ready for taking up. Some have a few beans and white pease, and others a small plot of onions, leeks, and carrots. In short, the whole garden is constantly under crop, and parts of it often carry two crops in the year; the ground which carried potatoes being generally digged and planted with Scotch or curled kail, as fast as the potatoes are removed. Under these circumstances, a kitchen-garden is of immense benefit to a Scottish family, especially when the owner has a taste for dressing it sufficiently, of which the farm servants in Scotland are seldom destitute. Indeed, a Scotchman obtains from his garden what an Englishman, in his case, commonly seeks at the ale-house. In this respect the fashions of the two countries differ so widely, that it is not easy to say which is best; therefore, without pronouncing judgment, the whole shall be left to the determination of your readers.

I am, &c.

Berwickshire, *4th March*, 1826. VERUS.

The description of papers alluded to by Verus we consider as perfectly suitable, and we invite our readers, and especially our much esteemed friend himself, to supply them. They will be particularly interesting to such gardeners as are also Agronomes.—*Cond.*

ART. V. *On the present State of Gardening in Ireland, with Hints for its future Improvement.* By MR. JAMES FRASER, Author of a Letter to the President and Vice-President of the Horticultural Society of Ireland.

(*Continued from No. I. p.* 14.)

OVERHANGING Merville is Mount Merrion, the residence of —— Verschoyle, Esq., the most conspicuous seat in the vicinity of the metropolis. It is interesting as a place of former days, and from the finely-grown trees and evergreens by which it is adorned. The style of the demesne is antique and plain, but the garden has been long remarkable for its excellent productions under the management of Mr. Egan. This demesne, from its extent, elevated situation, and large ornamental trees, is susceptible of much improvement; commanding a full view of the town, the bay, and the mountains; looking down on the innumerable villas, rising in all the endless variety of architectural design, with which the environs of Dublin are so thickly studded, and forming, as it were, one of the principal features in the landscape of the smaller residences south of the city. While in this neighbourhood we will notice Annfield, the villa of Dr. Percival, in the management of which this venerable physician employs his few leisure moments.

We observed with much pleasure, among many other improvements, that he had succeeded in acclimating the Pittosporum tobira, Hypericum balearicum, Selago corymbosa, Agapanthus umbellatus, and several other exotics. Mr. Mackay of Trinity college has bestowed a great deal of pains and time on this interesting subject, the particulars of which he has published in the first and second numbers of the Dublin Philosophical Journal. At each end of the house there is a conservatory; one is used for Cape and Botany Bay plants, the other for the more tender exotics. The amateur whose avocations principally confine him to the city, and who seeks for health and recreation in his villa, would profit by an occasional visit to Annfield.

To the south-west of the city lie Rathfarnham Castle and Marley, places of considerable extent and long standing. The gardens of the former we have already mentioned as in a state of ruin. The plantations have been protected, and there still exists, to the south of the castle, a small grove of evergreen oaks, as fine trees of the kind as we remember to have seen. Among them are two distinct varieties of Quercus ilex; and last year the more common sort brought to perfection an immense quantity of acorns, an unusual occurrence in this part of the island. The cultivation of these varieties of oak seems of late years to have been much neglected by planters, a circumstance to be regretted, as we know of no tree entitled to rank with them as evergreens. By proper management they may be adapted to the shrubbery, where they form beautiful hardy bushes, or trained in the forest, where they vie with their more robust congeners.

Marley, the residence of —— Latouche, Esq., is delightfully situated at the foot of the range of hills, which on this side form the back-ground to the environs of the city. The gardens and pleasure-grounds were, till of late years, in great repute. We understand that the late Mr. Leggett, a landscape gardener of original talent, laid out the grounds. He has evinced considerable taste in the management of the mountain rivulet, which is conducted through the demesne. By many, the cascades are considered too numerous, causing in some places a greater degree of placidity than is consistent with the character of the stream. The demesne, generally speaking, has been much renovated within these few years by Mr. Dunne.

Adjacent to this is Tereneure, the seat of Frederick Bourne, Esq., a most zealous amateur in every branch of gardening. The gardens and dressed-grounds are extensive, and contain the best private collection of plants we know in this country. Although extensively engaged in business, Mr. Bourne, as a source of relaxation, generally directs the affairs of the garden; and in the ornamental department he possesses an original and correct taste. He was among the first to break down the barriers which had so long hemmed the villa gardener within the parallel beds of tulips and elliptical figures of roses, and to lead the way in endeavouring, upon natural principles, to blend the decorative with the useful. The conservatory is a large structure, and is heated by steam. The forcing-houses are extensive, and the collection of hardy shrubs is very interesting.

It is pleasing to observe, that in this neighbourhood Mr. Bourne's example has been in some degree followed; as in the improvements at Bushy Park, the charming residence of Sir Robert Shaw, Bart., which possesses many natural advantages. The forcing department, in particular, of this garden, has been long judiciously managed by Mr. M'Cabe.

While here, we hasten to correct a mistake which has inadvertently crept into the Encyclopedia of Gardening. In that work, Tollaght, the former country residence of the Archbishops of Dublin, is, in the enumeration of Irish country seats, mentioned as a place of note. For many years past this place has been wholly neglected, and, except two very large picturesque walnut trees, is quite unworthy of notice. Cypress Grove, a beautiful villa, laid out and planted by the late Countess Clanbrasil, is in this line. Some of the best grown ornamental trees and shrubs about the city are to be seen here. Magnolia acuminata has attained to a great size, and there are several very large bushes of the Cratægus punctata in the lawn. Of the various American and European thorns, which are admirably suited for the park, or dressed grounds, with how few do we meet! There is also a very fine specimen of the cork-tree in the park, which we were sorry to observe quite unprotected. In the garden, great care appears to have been taken in the original formation of the borders, and in the selection of the fruit trees, which, under all the changes to which this place has been subjected, is still evinced: there are few gardens of the size so productive; and if a practical example of the good effects resulting from proper management in the commencement of a place were wanting, that of Cypress Grove might be adduced.

It would far exceed our present limits to enter even into a bare enumeration of all the gardens about Dublin. We are aware that we have omitted several important matters; but to these we will return, being determined to insert nothing but what has come under our actual observation. This explanation will, it is hoped, satisfy those who may at present consider themselves overlooked.

Before journeying northwards, we beg leave to introduce Merino, the seat of Earl Charlemont, and then to make a few general remarks. Merino has more the character of a country residence than any yet specified. Its extensive woods, comparatively speaking, closely surrounded by the trees of the adjoining villas, give it, as you approach from the south, the appearance of a dense forest. The gardens are extensive, and, we are happy to state, rapidly improving in every department, under the management of Mr. Hethrington, the president of the Irish Horticultural Society. This demesne is open to the public.

The gardens, generally speaking, around the city, have been laid down upon too large a scale; the consequences are, a falling off in the means necessary to support them in their pristine style, and a neglect of those particulars which constitute the chief beauties of gardening. With the view of having them near the mansion, a very obvious mistake has been made on the part of the proprietors, the outside walls and borders being thereby sacrificed. Independent of the economy, we know of no plan so neat and comfortable as a moderate-sized garden, from one to two Irish acres, according to the nature of the family, with a properly secured slip around, so that due advantage may be taken of both sides of the walls. This is the practice of Mr. Hay, round Edinburgh, whose designs have given such general satisfaction, and of Mr. M'Leish, throughout this country. In the formation and internal arrangement of the houses for ornamental plants, little improvement has been made on their original simplicity; and, except the conservatory in the Dublin Society's Botanical Gardens, there are none to vie with the late Mr. Angerstein's at Blackheath, or Sir Robert Liston's at Milburn Tower, in Mid-Lothian, nearer than that at Shane's Castle, in the county of Antrim. The application of steam has been confined to one or two places, and the metallic sash to a like number. We have no want of horticultural erections of this sort, attached to dwelling-houses, of every scale and form; but they are, with very few exceptions, the mere gewgaws of some city architect, in which, perhaps, a myrtle or orange-tree might struggle out a wretched existence. Until the prejudices which exist among operatives to the cultivation of exotics are removed. we cannot look for much improvement in this department. True it is, that in the production of early culinary crops, peaches, and the framing department, the Dublin gardeners are only to be excelled by those around London; they certainly exceed those of Edinburgh. In the cultivation of the pine-apple and vine, in the management of wall-trees, and in several of the more elegant branches of the art, much remains to be done. The dissemination of the

Encyclopædias of Gardening and Agriculture, followed by the Gardener's Magazine, will, it is hoped, incite among practical men a spirit of reading and inquiry into the nature and principles of matters appertaining to their profession; and while the mechanics of every rank and degree throughout the empire are zealously coming forward to form institutions for their advancement in the arts and sciences, let it not be said that a class of men so long distinguished for their intelligence and respectability remain inactive.

(*To be continued.*)

Art. VI. *Some Account of the Kitley Shaddock.* By Mr. H. Saunders, Gardener to E. P. Bastard, Esq. M. P. of Kitley, Devonshire.

Sir,

Having perused the first Number of your valuable Gardener's Magazine, and finding such an excellent channel open for noting the various daily improvements making in horticulture, I send you two fruit, and some cuttings of a seedling plant of the Shaddock family (*fig.* 50.) The plant which pro-

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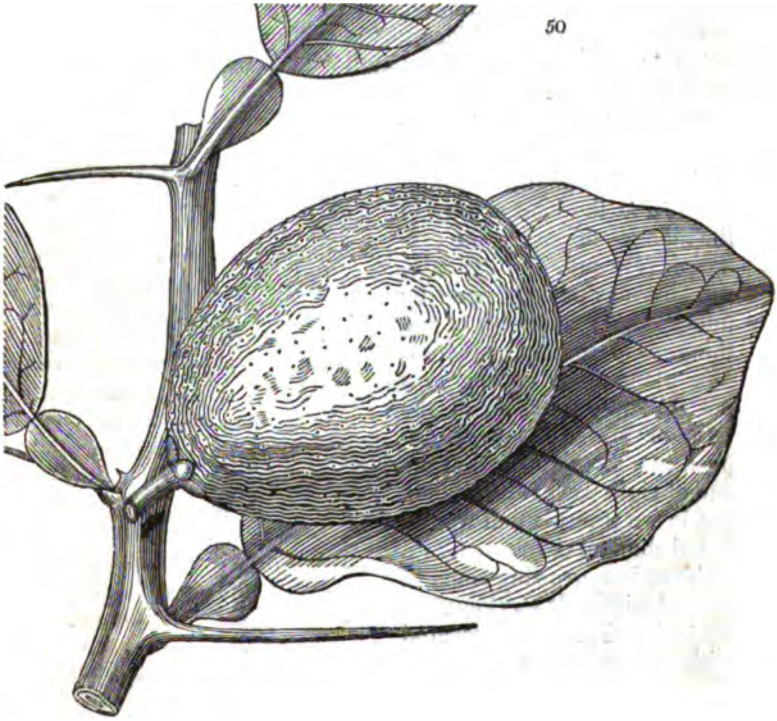


duced these fruit was raised here from seed, and was kept in a confined tub for a series of years previously to my having the management of it. I was induced, about seven years since, to give it a trial in the conservatory, in a preparation of compost, which occasioned it to grow very luxuriantly; and, by gradually ringing the branches, I brought it most successfully into a bearing state. It now produces many dozen fruit annually, in clusters; three, and frequently four, in a cluster. It is considered a fine dessert fruit, and we have given it the appellation of the Kitley Shaddock, until we can obtain a more correct term.

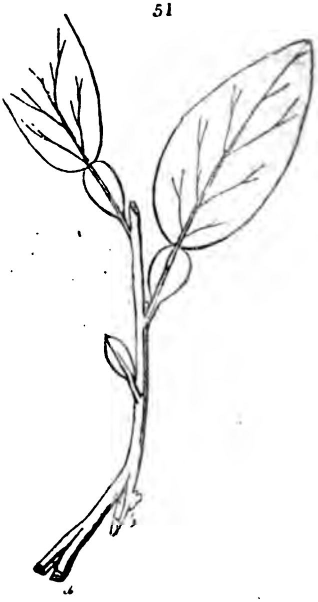
I am, Sir, &c.

Kitley, March 7. 1826. HERMAN SAUNDERS.

Note.—We tasted the fruit, and found it something in flavour and consistency between an orange and a shaddock. The cuttings are distributed among amateurs, there being but little demand for the citrus tribe in the nurseries. One cutting we kept, and prepared in a manner which, though not original, or of recent invention, is not, we believe, generally known among gardeners. We have heard, from different sources, that it was the invention of the late Mr. Hoy, of Sion Gardens; but if any reader can claim it for himself, or refer it to the inventor, we shall be happy to give place to his communication, and pay a tribute to the memory of the author of a useful and curious piece of manipulation.

The cutting (*fig.* 51.) being cut across immediately below a joint, is then slit up (*a*), and tongued at the joint above, in the manner of laying the carnation (*b*); and, if necessary, the slits may be kept open by interposing a small bit of any thing, as in common practice. We planted our cutting in a pot of sandy peat, about the 18th of March; it began to push in a fortnight, and at the end of eight weeks from being put in we transplanted it, and found abundance of roots, with a shoot, in a growing state, of several joints. It was kept in a cucumber frame, and covered with a glass. — *Cond.*

51

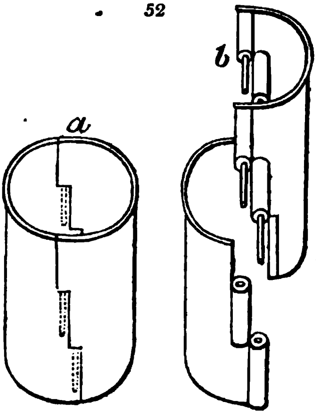


Art. VII. *Description of a new Transplanting Instrument, for removing Plants when in Flower.* Invented by Mr. Matthias Saul, of Lancaster, and communicated by him.

Sir,

I send you a description and drawing of a transplanting apparatus, which, if you think of any interest to the readers of the Gardener's Magazine, you are extremely welcome to. It differs from the one given in your Encyclopedia of Gardening, and from every other which I have seen or heard of. When the instrument is put together, it forms a cylinder (*fig.* 52. *a*), and when separate it consists of two parts (*b*), which are joined together, something on the principle of a common door-hinge. In using this instrument it is best to have two of them; one to take out the earth at the spot where you wish to insert the plant, and one to remove the flower with its ball of earth. The instrument may be made of any size; mine is about six inches long, and six inches in diameter. I find no necessity for any handles: in using it I place it so that the plant or flower is in the centre; I then press the apparatus into the soil, and find no difficulty in drawing the plant up with the soil, not more disturbed than if it had been originally planted in the instrument. On the 25th of April I took up a Van Thol tulip and a seedling polyanthus from my garden, and placed them on the flower-stage of the Lancashire flower-show, where they remained from ten o'clock in the morning till five in the afternoon. I then replaced them in the same place in the garden, and, after I had withdrawn the apparatus, there appeared no defect in the border, nor drooping in the flower. I have removed several large wallflowers in full bloom this month, without the least appearance of the flower being injured. I have always been told that a plant in full flower could not be removed, but I have proved that by this apparatus it may be done with safety.

52



I am at present trying some other experiments, the result of which will, I hope, be of interest to the Gardener's Magazine.

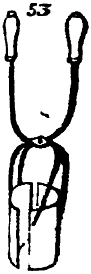
I remain, Sir, &c.

Matthias Saul.

Sulyard Street, Lancaster, April 23. 1826.

Transplanters are chiefly used by florists to fill up blanks in show-beds of flowers. The French one (*fig.* 53.), is one of the neatest. Excepting for the purposes mentioned, a trowel or the spade will be preferred by the practical gardener. Mr. Saul has very obligingly sent us one of his implements, and proposed that we should take up a tulip, pot it, and send it by coach to the Lancashire show; but not being "high in that fancy," as the phrase is, all we could do for the credit of his ingenious invention was to send the transplanter to Weir's, Oxford-street, where it is manufactured for sale, under the name of Saul's Transplanter. — *Cond.*

53



Art. VIII. *On a Mode of keeping Apples through the Winter*, as practised by Mr. Robert Donald, Nurseryman, Woking.

Dear Sir,

I have read with much gratification the first and second numbers of your valuable Gardener's Magazine, — the long-wished-for medium of communicating pleasing and useful knowledge, and much improvement to various classes of society. The nobility and gentry of fortune who have already a taste for gardening, will be more and more enlightened in that most rational amusement, so conducive to health and happiness; they will be better able to distinguish gardeners of experience from those who assume much and know but little, and to regulate their salaries in proportion to their abilities, and the extent of the gardens they may have to superintend.

To the merchants and citizens of London who have country residences, — to them and their families, a good garden and pleasure-grounds are great recreations from the bustle of business, and a luxury from the smoke of London. The Gardener's Magazine will be to them a pleasing source of amusement and a profitable acquisition. To experienced gardeners it will refresh their memories and improve their minds by new discoveries.

On young students in the profession, who exert their powers to excel in the science of botany, and to select and improve our fruits and vegetables; on them the experiments and reports of the Horticultural Society, in conjunction with the Gardener's Magazine will have a wonderful effect.

The labouring classes will gain much useful information how to crop their gardens, to choose and plant the best bearing kinds of fruit trees, and how to keep their apples, &c. agreeably to the valuable article of William Stevenson, Esq.; thereby adding much to their comforts and the improvement of their morals.

Lest I intrude on your valuable time and pages, permit me to inform you, for the benefit of your readers, how I keep my apples. Six years ago I had a large crop of the apple we call Golden Knob; it is known at Covent Garden by the names of Old Maid, or Old Lady, and is the best bearer of any I know. A neighbour of mine, Mr. Woods, on the 9th Nov. 1819, gathered from one tree the immense quantity of 68 bushels and a half, not including what fell prematurely, so that there could not have been less than 70 bushels; the tree is about 45 feet in diameter and 135 in circumference, and stands in a hedge-row upon the estate of William Collyer, Esq. The same year a Mr. Graham had 200 bushels, the produce of only four trees! That year I tried an experiment to preserve some apples in a ridge of earth, in the same way we do potatoes in this part of the country. I had a trench dug five feet wide, one foot below the surface of the ground, and 12 feet long. I covered the bottom and sides with turf, the grassy side upwards, and then filled the space with Golden Knobs, and some French Crabs, about 2½ feet deep in the centre, sloping a little to the sides; I then covered them close with turf, the grassy side next the fruit, to keep them clean, ~~I next~~ had the ridge covered with mould a foot thick, to keep out the frost, and exclude the external air. In the end of April ~~1820, I had~~ them taken out in fine preservation. I again last Autumn kept 50 bushels in the same way with equal success. If you deem this or any part of it worthy of a place in your Gardener's Magazine, it is at your service. I am, dear Sir, yours, &c.

Robert Donald.

Woking Nursery, April 29. 1826.

Art. IX. *Some Account of the Gardens, and State of Gardening in Denmark.* By Mr. James Peterson, of Copenhagen, now studying the Art and Practice of Gardening in England.

The climate and circumstances of Denmark are much less favourable to gardening than those of Britain; yet horticulture is very successfully practised, especially round the capital. The flowers generally cultivated, are roses, carnations, stocks, hyacinths, tulips, &c. and herbaceous, biennial, and annual plants. Great collections of stove and green house plants are not commonly seen in noblemen or gentlemen's gardens, except of the old species. The fine New Holland plants, such as Banksia, Epacris, all the new Acacias and Melaleucas, &c. are wanting, except what there is in the botanic gardens. The great and fine collections of American plants, as Rhododendron, Azalea, Magnolia, &c. are very rare; at least the finer kinds cultivated in Britain; and all require the protection of a house during our severe winters, and to be kept in large pots or tubs. In this way even the common laurel must be treated.

There are very fine apples, pears, plums, cherries, gooseberries, currants, &c. grown in abundance.

The principal gardens are the Royal Gardens near Copenhagen; but there are many noblemen and gentlemen's places throughout the kingdom, kept in good order, and beautifully situated.

Fredriksborg, his Danish majesty's Summer residence, about two miles from Copenhagen, is a most delightful seat; this extensive palace is situated on a hill in the pleasure-ground, from whence is a beautiful view over the greater part of Copenhagen, and some part of the Sound. The pleasure-ground is extensive, and laid out in the Dutch manner. During the last twenty years great alterations and improvements have been made, in the English style, and continue to be made to a certain extent every year. It is one of the finest pleasure-grounds in Denmark. A fine canal runs through the garden, over which are several handsome bridges, and there is a beautiful little island, called the Chinese Island, besides many other garden scenes which greatly add to its natural beauty. During all the Summer season the garden is open to the public from early in the morning till late at night. The forcing department, kitchen garden, orchard, &c. are very extensive, and kept in very good order. The head gardener, Mr. Peterson, who held this situation a number of years, died lately.

Sondermarken, a beautiful extensive park, belongs to the palace, and is situated near it; it is devoted exclusively to the royal family, and is more like a pleasure-ground than a park.

The Royal Gardens at Rosenburgh, near Copenhagen, are particularly remarkable for their extensive and well managed forcing-ground; in which are grown fine fruits for the royal table, and select flowers. The present and well-known head gardener, Mr. Lindegaard, the first horticulturist in Denmark, grows the best fruits and flowers in the country. Here is the finest and most extensive orangery, and the best managed peach trees and vines, both in hot-houses and in the open air.

Mr. Lindegaard introduced the method of rearing peach-trees in Denmark, and particularly the mode of preserving them during the first and second Winter after budding. They were formerly always imported from Holland, but that expence has through him been prevented. Peach-trees are chiefly trained on wooden walls, and during severe frosts are covered with straw mats. The kind grown in general is the Double Montagne (the English Montauban) which ripens its fruit without artificial heat about the end of August. Mr. Lindegaard's trees are as finely trained as any I have seen in England.

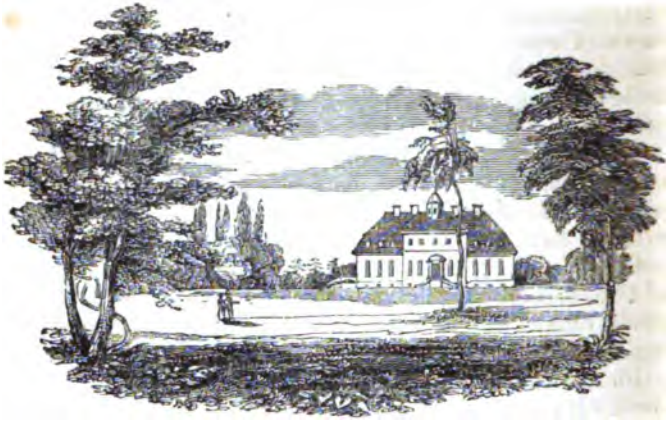
The sorts of grapes mostly cultivated, and also the hardiest, which often produce in good warm Summers, by Mr. Lindegaard's treatment, fine ripe fruit upon walls without any artificial heat or covering, are the red Van der Lahn, Chasselas blanc (I think it is the common white Muscadine), and the Wasser siet (undoubtedly the small white cluster). The Parsille druen (the parsley-leaved Malmsey Muscadine) is likewise hardy, but does not set well if the weather is cold when it is in bloom.

The Frankendalen, (black Muscadine) and Pottebakker, (the black Hamburgh) are generally grown in vineries, as their ripening on open walls is very uncertain, though it sometimes occurs in hot Summers. The white Sweet-water (Perle druen) is the finest white grape known in Denmark, and always planted in vineries. All Mr. Lindegaard's forcing, of every description, is effected by dung heat alone; his early peaches and grapes ripen every year in the month of June, and in general he has grapes all the year round.

The pleasure-garden has during the last five or six years been much improved; like Fredriksborg garden, it is open every day in the year for respectable-looking people. During the Summer season there is music in both gardens once a week, performed by military bands, at the king's expence.

Sorgenfrie, (*fig.* 54.) the residence of his royal highness Prince Christian Frederick (the Crown Prince), is about six miles from Copenhagen. The palace is situated on a hill, and surrounded by a beautiful park, and the neighbourhood is said to be the finest part of the country for natural beauty. His royal highness improves this place every year, and the pleasure-grounds are open to the public all the year round. As their royal highnesses are as great or perhaps greater lovers of gardening than any other royal individuals in the kingdom, the art will no doubt be carried to great perfection in this delightful place.

54



The botanic garden, which is situated at Charlottenburgh, is well managed, and the collection is reckoned very good, and particularly rich in hardy plants. The botanic professor is Mr. Hornemann, a highly-respected botanist in Denmark, and the chief botanic gardener Mr. Holbòll, a man known by almost every gardener in the kingdom for his superior skill and ability in his business. Without any exception whatever, Mr. Lindegaard and Mr. Holbòll are the two first practical gardeners in Denmark; both of them are highly respected by the royal family and nobility, and people in general. The catalogue of plants in the botanic garden at Copenhagen is to be had at the booksellers there by the title of "Hortus Hafniensis."

Charlottenlund, Fredensborg, Fredriksborg, Jægerspriis, Marienlyst, &c. are all royal seats, but none of the royal family live there, except in Charlottenlund; nevertheless the situations of the others make them worthy of notice. Charlottenlund, about four miles from Copenhagen, is remarkable for its beautiful park, which, during the Summer season, and chiefly on Sundays, is crowded with thousands of people.

Two miles from Copenhagen is a little island called Amager, about six miles long and five broad; the greater part of this island consists of market gardens, and was, more than two centuries ago, peopled by Dutch gardeners, who were sent for to cultivate culinary vegetables. This island supplies the greater part of Copenhagen with vegetables, which are grown to great perfection. The inhabitants wear a distinct dress from all other people in the kingdom.

There are several other good market gardens in the country, particularly about Copenhagen; every nurseryman grows vegetables and fruits for the market, so that there is very little difference here between nurserymen and market gardeners, only that some of them grow more flowers and fruit trees, and less vegetables than others.

Sea-kail and mushrooms are not cultivated in the country, unless it may have been done lately; all sorts of culinary vegetables in general cultivation are grown there as plentifully as in Britain.

Camellia Japonica, and its many beautiful varieties, are as seldom to be seen in Denmark as Banksia grandis is in England; but no doubt it will be otherwise in time, and the American plants will also be seen more plentifully.

Pine-apples are grown in great quantities in the two royal gardens of Rosenburgh and Fredriksborg; and at Sorgenfrie they are likewise well grown according to their methods, though not so plentiful as in the former places; this valuable fruit is also cultivated in several noblemen and gentlemen's places throughout the kingdom, but is nowhere seen equal to the fifteen and eighteen months' old fruiting plants of Messrs. Munro, Johnson, Shannon, Nolan, and Plimley. The Old Queen is the only sort grown in Denmark.

I am, Sir, &c.

James Peterson.

Lees' Nursery, Hammersmith, April 18.

The above paper, written in English by a foreign gardener lad, who has not yet been three years in England, is a proof of what may be done by a desire to excel, and by persevering in the means.—*Cond.*

Art. X. *On an anomalous Appearance in some Species of Lilium.* By E. M. Baines, Esq. Surgeon, Hendon.

Generation is the most interesting part of physiology, whether it be of the animal or of the vegetable kingdom, and any unusual attempt in plants to propagate their species, deserves record, as being equally interesting to the philosopher and to the horticulturist.

A few plants of Lilium candidum were growing in a damp shady corner, in loam approaching to clay; and though the flowers were formed they never fully expanded. As the leaves of this plant at its flowering season begin to appear unsightly, all the plants were cut down to within a foot of the ground. In the Autumn much surprise was excited by two of the plants showing bulbs at the axillæ of the remaining leaves; not like those of L. bulbiferum and tigrinum, but soft, white, and succulent, and composed of several scales, being about the size of a small hazel nut.

A bulb of L. canadense, var. rubrum, was planted in bog-earth; not showing any leaves in June, the upper part of the bulb was carefully exposed, but appearing very white, (the incontestible mark of health in the North American species,) it was covered, and allowed to remain until the Autumn, when it was taken up and examined; several new and large bulbs had formed, so as to increase it to triple its former bulk. The mode of increase in the North American species (at least in Canadense and superbum) appears peculiar; the parent and young bulbs are connected somewhat in the manner of Tulipa sylvestris.

I have seen the leaf of Lachenalia tricolor form bulbs on the torn edge, when it has been half divided by accident.

I am, Sir, &c.

Hendon, Middlesex, May 2. E. M. BAINES.

ART. XI. *Observations on Reverse Grafting.* By Mr. WILLIAM BALFOUR, Gardener to the Earl Gray, at Howick.

Sir,

I HAVE been favoured by a friend with a sight of your Gardener's Magazine, in which I perceive you have noticed my method of reverse grafting in rather an illiberal manner. From the respect you appear to have for improvement in general, and particularly in gardening, I should have expected that an improvement, however simple, would have been treated by you in a different manner. You go on by saying,—"All these advantages may be much more readily attained by reversing the young side-shoots." I have proved by experience, that reversed side-shoots do not come into bearing, nor are they so easily kept within due bounds as are the shoots from reverse grafts; and, moreover, shoots cannot be made to break from a desired spot, while a graft may be put on wherever you please; and, besides, reverse-training the side-shoots would not alter the kind, which may at some times be desirable. In all horizontal trained trees, young shoots seldom issue from the main stem without amputation. I grant, that trees grafted and trained in the reverse manner cannot be kept in exact uniformity of training;—utility was my object, as also neatness of training, so far as the nature of the thing will admit. I must say, that I do not envy the taste of the person who would prefer a tree trained in exact symmetry, bearing leaves only, to one trained somewhat irregular, bearing a crop of fruit; and to keep a tree in regular bearing, a succession of young shoots must be annually laid in.

I am, Sir, &c.
Wm. Balfour.

Howick, April 14. 1826.

Art. XII. *On improving the Gardens of Cottages, as practised by the late Lord Cawdor at Stackpole Court, in Pembrokeshire.* Communicated by Mr. William Buchan, F.H.S., Gardener to Lord Bagot, at Blithfield, near Litchfield.

Sir,

In your Gardener's Magazine, I have seen a paper on the benefits to be derived by the country labourer from a garden, and the means of teaching him how to acquire those benefits, by William Stevenson, Esq.; and considering that it might be of service to some of your readers, I shall endeavour to describe a method of teaching labourers to benefit by their gardens, which differs from Mr. Stevenson's, and which, in the hands of an indulgent master, I have in some measure been instrumental in effecting, when in the service of the late Lord Cawdor, at Stackpole Court, in Pembrokeshire.

His lordship, ever anxious to promote the comforts of his dependants, gave directions for additional chambers, and a better system of ventilation in his cottages; to repair the exterior in the cottage style, and build new ones where wanted. I was then instructed to put the gardens in a proper form behind each cottage, and to make a court in front, for the cultivation of flowers. I furnished them with such fruit-trees as were best adapted for that climate, and stocked their courts with herbaceous plants, shrubs, and creepers of the common kinds; informing the cottagers at the same time, that they would have to keep the whole in good order for the future; and I must here observe, that the information was not received with a good grace by some of them, prejudiced as they were against the introduction of any thing new.

Five premiums or rewards, of different value, were then offered to those who had the best cultivated garden, and most flowers in their courts, and about the 10th of August I inspected their gardens, and awarded the premiums. As the garden labourers, from the nature of their employment, had some advantage over the others, they were not allowed to compete with them, but were competitors among themselves; and the premiums were not confined to those who had had their gardens put in form for them, but extended to the cottagers of the three parishes.

The successful candidates were so elated with the idea of having gained a prize, and the others flattered with the hope of doing the same the following season, that the spirit of gardening soon became general, and cuttings of fruit-trees, plants, and flower-seeds, were in great request with those very individuals who were most prejudiced against them at the formation of their little gardens.

The village of Stackpole was now frequented in the Summer season by the ladies and gentlemen of the neighbourhood, to see the flowers and improvements of the cottages; and many of the labourers, who had worked about the gardens for years, and never asked the name of a plant, began to ask the names of flowers that a certain lady or gentleman had admired the preceding day.

Two years before I left Stackpole Court, the premiums were discontinued, being considered unnecessary; and it was gratifying to see that the cottagers paid the same attention to their gardens, in the evenings and mornings, as usual; they had experienced the comfort and advantage arising from so doing; for their fruit-trees were now in a bearing state, and their market for common fruits and early vegetables was tolerably good.

Having seen the desired effect accomplished, by the above method of teaching labourers to benefit by their gardens, I should be happy to hear of that, or a similar method, being adopted by those who have it in their power; and the poor man's cottage made comfortable and ornamental in scenery, instead of the levelling system which is practised by many.

I am, Sir, &c.

William Buchan.

Blithfield, May 13*th,* 1826.

We earnestly recommend to our readers the practice recommended in the above communication. There is scarcely any person fond of gardening, and of promoting the comfort of his fellow-creatures, who might not do something. The humblest individual might give away seeds or plants, and, wherever he saw them, commend neatness and good crops, and blame slovenliness. Clergymen might do much in this way. Village clubs might be formed by the richer inhabitants, for giving instructions verbally and by printed tracts, and also seeds and plants, and awarding premiums to their more humble neighbours, in Lord Cawdor's manner. On large properties, where all or most of the cottages belong to, or are held of one individual, the premiums, &c., should be given by him, and the mode described above seems to be the best hitherto devised. Many country gentlemen only require to have a good thing such as this proposed to them, in order to its adoption. We recommend such gardeners as can do it, to hint the thing in a proper manner to their masters, and especially to their mistresses, and the young ladies of the family. A great deal is yet to be done both in the horticultural and architectural improvement of cottage residences. Even the best sorts of apples, to ensure a succession of that fruit to the cottager throughout the year, are not generally known. We earnestly request information on every thing relating to the improvement of cottagers and cottages. One movement of improvement given to the lowest classes will produce an impulse through all those above them; but the reverse does not happen so quickly. When speaking on this subject to country gentlemen, we have frequently been told of the impossibility of overcoming the habits and prejudices, and even vices, of the lower classes on their estates; but though this may not be done at once, and entirely, it may be done by degrees, and in great part. The very reason of these bad habits and prejudices, is the neglect and bad treatment of the superior classes, for the same reason that the rudeness of the populace of the metropolis, when they get into public gardens, museums, &c., is because they are generally excluded from such places. Were they as commonly admitted to them as in France and Germany, they would do them as little injury as in these countries; and were all cottagers treated like Lord Cawdor's, they would, in time, become as industrious and amiable. It is a common case with masters of all classes to think that their servants have more faults than those of others; but this, we suspect, is a vice belonging to the condition of masters. Buonaparte observed to M. Rochelle, that "children and servants are just what we make them." The same thing may be said of the cottagers on gentlemen's estates.—*Cond.*

ART. XIII. *On the Cultivation in the Open Garden and Treatment in the Forcing-house of the Strawberry known as "Wilmot's Superb."* By Mr. ISAAC OLDACRE F. H. S. Gardener to the Emperor of Russia.

Sir,

HAVING had an opportunity of observing the progress of "Wilmot's superb" strawberry from its first production, with the cultivation and management practised by Mr. Wilmot, I flatter myself a few remarks on it will be acceptable to the numerous readers of the Gardener's Magazine. The excellence of this strawberry is too well known in the metropolis and its vicinity to require any comment; nor do I think any fruit garden can be complete without this fruit. Its ripening later than the pine, and most other strawberries, enhances its value considerably.

The plants being stronger in their growth than any of the other varieties, they are planted at a greater distance from each other. The rows are two feet and a half apart, and the plants two feet, plant from plant, in the rows. They are left to grow in single stools, and the ground betwixt them is always kept free from weeds. Where the runners are not wanted to make plants for new plantations, they are taken off as they appear, because if suffered to grow they would weaken the old plants, and prevent them from producing their fruit so large the following year. They thrive best in a rich loamy soil.

This strawberry, if not put into the forcing-house till the end of February, or beginning of March, forces well; the fruit does not set well in a high temperature; from 50° to 55° is the heat that suits them best, with a free admission of air in the middle of the day until the fruit is set; after that they will bear a stronger heat.

A very good description of this strawberry has been given in the Horticultural Transactions, vol. vi. p. 208. (*and Gard. Mag.* p. 230.) I am, Sir, yours, &c.

Spring Grove, March 6th, 1826. ISAAC OLDACRE.

ART. XIV. *On the Importance of Regularity and Systematic Conduct in Practical Gardeners.* By G. R. Gardener, Champion Hill, Surrey.

Sir,

WITH every disposition to support the Gardener's Magazine, from the conviction of its universal utility among practical gardeners, I avail myself of your general invitation to forward a few remarks, which, in my opinion, may not prove altogether useless.

In the course of my practice as a gardener, I have observed that gentlemen are frequently deprived of the proper returns which their gardens ought to yield, and also gardeners of their situations, more from the neglect than from the incapacity of the practitioner. Such are the effects of this negligence, which, I am sorry to say, too generally prevails; but the causes are not so easily ascertained, as the sources are various from whence they originate. I will therefore decline entering into details, but state generally, that regularity, method, and attention, constitute the very essence of gardening, and every deviation from these principles will prove injurious both to the interests of the employer and the employed.

Is it not by dint of perseverance, assiduous attention, and steady conduct, that day-labourers, of whom your correspondent Mr. M'Naughton complains, have been enabled so to undermine and intrude on the province of the practical gardener? And for this intrusion who is blameable? — I unhesitatingly answer, the practical gardener himself. How frequently, although the confession be painful, do we perceive a garden in all its various departments flourish in a superior manner under the superintendence of the attentive day labourer? His predecessor, perhaps, had been regularly instructed under an able tutor, and fully competent to the task he had undertaken, but completely distanced in all his undertakings merely on account of his own careless and inattentive manner in regulating his operations. My motive for making these remarks is, earnestly to intreat regularly initiated and well-educated gardeners, to add to their stock of knowledge, a steady conduct, and a regular system of action. Let those gardeners who have the true interests of their profession at heart, whose ambition it is to excel in their occupation, whose abilities enable them to combine the practical with the scientific, — let such, I say, consolidate themselves into one regular community, and adopt the same principles; and let those principles be regularity, method, and attention: and, without fear of contradiction, I boldly affirm, they will soon obtain that superiority over the ignorant or partially instructed operative, to which their merit and knowledge will render them justly entitled; — the day labourer will descend to his proper station, and the gardener regain his wonted ascendancy.

Champion Hill, March 10. 1826. G. R.

Art. XV. *Design for improving the Parks, by extending Kensington Gardens, and continuing the Serpentine River into the Green Park, &c.* By John Thompson, Esq., Pictorial Draughtsman and Student of Landscape Gardening.

Dear Sir,

Availing myself of some suggestions of yours, and combining them with some ideas that occurred to me four or five months back, I have put them into a tangible shape; have embodied them in the accompanying sketch, and submit them, through the medium of your Magazine, to the consideration of those who guide the public taste, and have the improvement of our metropolis and the welfare of its inhabitants at heart: and although the design must be considered merely as a hint, or as an idea, that might be much varied or improved upon, I feel convinced, that were it adopted, it would be greatly conducive towards the beautifying of the metropolis, by creating in the midst of our palaces and buildings, highly picturesque and tasteful specimens of polished scenery; from the conversion of what are now dull and uninteresting spaces of grass into a source of comfort and pleasurable recreation to all classes inhabiting the interior parts of this great city.

Hyde Park. — Proceeding, therefore, with its elucidation, I must beg my readers to refer to the sketch (*fig.* 55.). Here they will find the present wall of Kensington Gardens represented by a dotted line (*l*, *g*, *a*, *d*,). This is to be removed, together with the bridge (*g*) now building. The Serpentine water (E) is to be naturalized, brought to one level, and continued to Hyde Park Corner. It will thus form the only boundary betwixt the park (A) and the gardens (B). We shall then have one noble and unbroken sheet of water, extending for more than a mile in length. The next thing is to take the lately formed road (*b b*), up to the proposed new gate (*c*), which is to be opposite the centre of a crescent already marked out, and carry on the existing road (*r r*) to where there is to be another gate (*d*), opposite the continuation of the Paddington New Road. Here also a small bridge (*e*) is to form the entrance into Kensington Gardens. The park road then follows the course of the water, and joins that lately formed (*f*); and having, as I before stated, removed the wall of Kensington Gardens (*a*), the lower road (*h h*) being sufficient for all the purposes of communication, the upper one, called Rotten Row, should be destroyed, and its site occupied by a continuation (*k k k*) from

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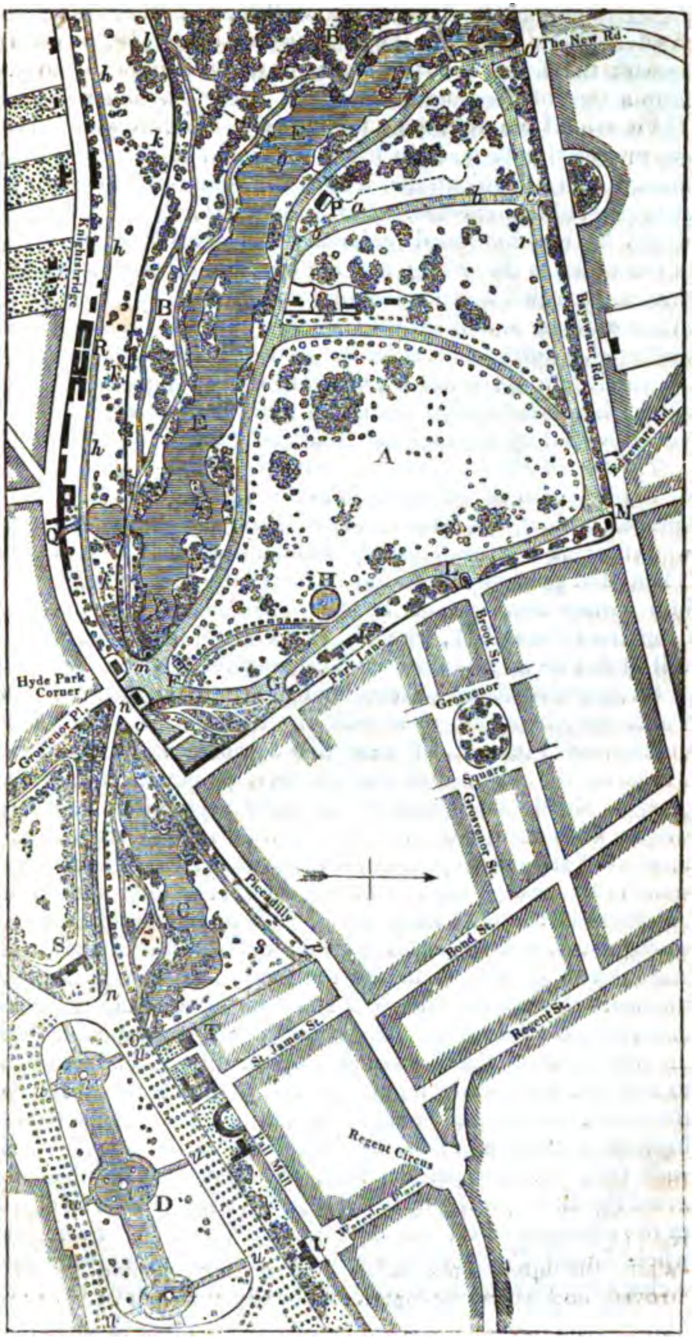
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L
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m
Hyde Park Corner
Park Lane
Brook St.
Grosvenor
Square
Grosvenor St.
n
Grosvenor Pl.
C
Piccadilly
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Regent St.
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O
St. James St.
Regent Circus
Pall Mall
D
Waterloo Place
u

the existing gate (*l*) of the garden wall, or any other fence, up to Hyde Park Corner. Then the whole space (B); included betwixt the fence and the water is to be laid out, and to form a part of Kensington Gardens, with several entrances. These are all the alterations, additional to what are now going on, proposed to be made in Hyde Park; and on contemplating them, it will be evident, that a most important and interesting change would be effected. Parties coming in their carriages would have a continued and delightful drive from one end of the water to the other; and the opposite banks would now present a varied and agreeable scene, from being converted into a garden, and filled with company: or, if walking was preferred, a party might enter the gardens at one gate (*m*), send the carriage to the other (*e*), and find a dry and pleasant walk along the water's edge, free from dust and all annoyances, yet enlivened by the carriages and bustle on the other side.

The Green Park. — The water in Hyde Park is, by means of a tunnel, to be continued into the Green Park (C), and, spreading along the whole front of Piccadilly, terminate in a waterfall; it is also to supply fountains in St. James's Park. Then that portion called Constitution Hill will be converted into garden scenery, and at the corner (*o*), where you now enter the Green Park, you will also enter this garden, which will in fact be no less than commencing Kensington Gardens at St. James's Palace, and continuing them through the Green Park, and, by means of a walk through the tunnel, in *one* uninterrupted extent of nearly two miles, with water the whole of the way; and though it is proposed that these gardens should be subject to the same regulations as Kensington Gardens are at present, which do not prevent the admission of any decent persons, it might be advisable to remove some of the restrictions; but the exclusion of dogs and other nuisances is certainly necessary. Such an extent of garden, so regulated, and so centrically situated, would create a novel and interesting feature in the metropolis, and could not fail to ensure the approbation and applause of the public, for so materially conducing to their comfort and convenience. In the other part of the Green Park, which will as usual be open to the free egress and ingress of the public, I would fill up the basin, remove the ranger's house, continue the iron railings all along Piccadilly, and let there be a broad gravel walk (*s s*), running parallel to it, at a sufficient distance to avoid the dust, opening by two new gates (*p* and *q*).—The effect of the alterations here will be extremely pleasing. From the whole line of Piccadilly the water will act as a foreground to a charming view of the Surrey hills, with the Abbey, the new palace, and the trees of St. James's and Buckingham gardens in the middle distance, rendering Piccadilly, as a leading entrance into the metropolis, one of its most agreeable streets. In making this alteration in the Green Park, I am aware that I am abstracting a portion of ground from a spot which is more frequented by the lower and middling classes of society than any other in London; but it will still be accessible to them under some restrictions, and being more polished and freed from nuisances, cannot but prove more agreeable; however, as I am extremely anxious not to be considered as diminishing the enjoyments of these classes, and as I am aware that his Majesty and the ministry have a most decided objection to any thing of the sort, I would amply compensate them in appropriating that at present dull, dark-green, useless place, the interior of St. James's Park (D) to their use, by converting it into a source of amusement and admiration as follows.

St. James's Park. — I propose, as may be seen by reference to the sketch, to add circular ends, and a circular centre to the canal, for the purpose of introducing fountains (*t t t*), which might be supplied from the waste water of the Serpentine, before alluded to; and if there is not enough to keep them constantly going, they might only be shown off as at Versailles, on particular days, say Sundays, at two o'clock, and on all holidays. A broad gravel walk should pass entirely round the canal, with others leading to the gates (*u u*); these, with their drainage, will contribute to keep the place dry; and, perhaps, some of the timber should be taken down, as it would be advisable to render the whole as light, open, airy, and dry as possible; for it is such scenes, totally divested of all gloom and repose, that best accord with those pleasurable feelings with which a mechanic or his children seek free and unrestrained enjoyment in walking and exercise. The gates should be opened and shut at a certain hour, but whilst open, subject to no restrictions whatever. It is absolutely necessary to close them at night, to prevent the resort of improper persons; and to avoid any one being shut in, a large bell might toll previous to closing the gates. Having now pointed out all my proposed alterations, I have only to add, that I am, dear Sir, &c.

John Thompson.

No. 1. Wellington Street, Waterloo Bridge,
April 25th, 1826.

We agree with Mr. Thompson, that if his plan were carried into execution, it would add greatly both to the grandeur and recreative enjoyment of the Parks, and though we have little hope that it will be attended to in the proper quarter, we think it well worth recording as an ingenious speculation. The union of the two pieces of water on one level, with other connected improvements, we suggested in the Gentleman's Magazine upwards of seven years ago; and more recently that of extending the water into the Green Park, and rendering it the boundary of Kensington Gardens (See *Gard. Mag. No.* I.); this last part of our plan, however, has no chance of being executed, since an enormous stone bridge of five arches (*fig.* 56.) is now being erected to connect the opposite banks by a carriage road. But whether the upper water is to be lowered, a water-fall formed, or the embankment retained as it is, we have not the slightest hesitation in asserting that this bridge is much too high, and altogether disproportionately large for the situation. If a water-fall is intended, there is not a tithe of the stream or waste necessary to supply it; and if the present embankment is to be retained alongside the bridge, the effect will be as ridiculous as unpicturesque. If the road must be carried over at this point, a low bridge supported on iron piles, or one composed of a number of low arches, in Claude Lorraine's manner, (*fig.* 57.) would be

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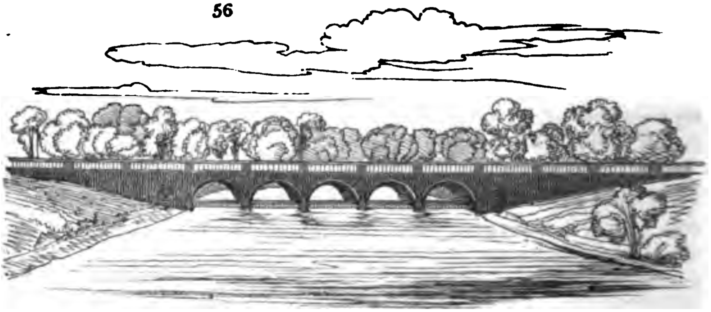

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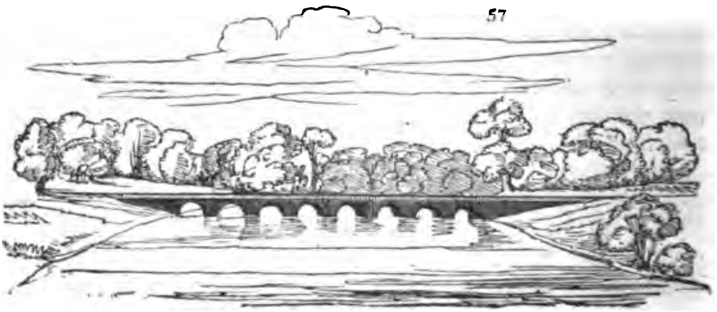


greatly preferable. These and other things we have suggested to the editors of different newspapers and magazines.

The new entrance-lodges to Hyde Park we greatly approve of; as being handsome on every side, and having the yard and other requisite appendages, sunk in the ground and judiciously concealed or disguised. We think there ought to be small stone lodges, with fire-places, at the principal garden gates for the comfort of the door-keepers during winter. We would encourage all the door-keepers to possess magazines, reviews, and newspapers, and lend them out, to persons who might be disposed to read them in the garden. We would also allow a certain number of coffee-houses, both in the gardens and parks, under certain regulations, and chiefly for the sale of tea, coffee, milk, and fruit. Each of these establishments we would encourage to keep a musician of some sort; on great occasions we would admit of fire-works, and, once a-week at least, a band should perambulate from Mr. Thompson's proposed fountains in St. James's Park, to the Greenhouse in Kensington Gardens. This last building we would heat in Mr. Sylvester's manner, and arrange it as a winter coffee-house and saloon; the summer coffee-houses we should prefer built of wood, and placed in shady retired places throughout the garden.

As amusements for the populace, we would erect in Hyde Park a variety of contrivances for games of amusement, for recreation, and for spectacle. Those who have passed any time at Vienna, Moscow, Berlin, and Paris, will be able to form some idea of what we wish to suggest. To carry these things into execution, little more would be necessary than granting permission to proper persons, who would willingly undertake them with a view to profit. We may be wrong, or mistaken as to some particulars; and perhaps if the whole of this paper, including Mr. Thompson's observations, were reconsidered with a view to practice, many improvements might suggest themselves; but taking the leading ideas, of — the water continued on one level from the north side of Kensington Gardens to the east side of the Green Park; — the fountains in St. James's Park; — the continuation of the gardens or dressed grounds from St. James's Palace to Kensington Palace; — the water as a boundary between the garden-scenery and parks; and the introduction of music, reading, and refreshments; — it will not, we think, be denied, that they are calculated to produce a degree of public ornament, and popular enjoyment, beyond any thing that has hitherto been proposed. They would probably also tend to soften and refine the manners of those who at present are acknowledged to be more rude than the same class either in France or Germany.

Since the above was printed, we have seen at the "Office of Woods," &c., the elevation of the large bridge (*fig.* 56.); with the waterfall delineated under it, the whole width of the five arches; but the idea of the waterfall, we were informed, had lately been given up. Not to say any thing of the absurdity of building a waterfall of a width (300 feet) that would require the Thames itself to cover it properly, in a situation where for nine months in the year more than the supply is carried off by evaporation; we ask if a bridge, which was designed of a proper height to admit a waterfall eight feet in height underneath, will also be of a proper height without that waterfall? We hope this bridge and waterfall are not to be considered as a specimen of the manner in which our public improvements are directed! What will become of the walk in that part of Kensington Gardens, when the embankment over which it now passes is removed? Will a separate bridge be erected for it? or will the company walking in the gardens mount the high bridge, and go over among the horses and carriages? In whatever way this bridge is considered, it is bad; and as those who have begun it have felt this so far as to give up the waterfall, the best thing they can do is to give it up altogether, and make the water the boundary between the park and gardens, as in Mr. Thompson's plan. The sum which it will require to complete the bridge, we have no hesitation in stating, would more than cover the expence of all the improvements proposed in this paper. — A bridge in a situation where it is really useful, and especially where it could not be done without, is one of the noblest of artificial objects; it shows great power exercised for a beneficent and important purpose; but placed where it is not essential, or where the water seems to have been made wider in order to increase the number of arches, the effect is a sort of mock sublime which is proportionately disgusting, because, like figures in wax-work, it appears an attempt to deceive, not to delight. If Mr. Thompson's plan were adopted, a foot bridge would be necessary on another part of the river to carry the public foot over it to Knightsbridge barracks: how much more satisfactory would be the effect of this structure, however slightly it might built, from its unquestionable utility and necessity.—*Cond.*

June 17*th.*

PART II.

REVIEWS.

ART. I. *Transactions of the Horticultural Society of London,* Vol. VI. Part I. London 1825. 4to. 1 Plate.

This part of these transactions consists of eight papers, occupying 108 pages, and ornamented with a coloured folio plate of Marica Sabini. The first paper is on a very important subject, and we shall endeavour to give the essence of it as completely and plainly as possible.

1. *On Climate, considered with regard to Horticulture.* By John Frederic Daniell, Esq. F.R.S. &c. Read August 17th, 1824.

Horticulture differs from agriculture by creating artificial climates, and agrees with it in the amelioration of the natural climate; the first is effected by an inclosed atmosphere in an artificial sructure, and the second by temporary coverings, and other means, in the open air.

> "The basis of the atmosphere has been proved to be of the same chemical composition in all the regions of the globe. All the varieties of climate will therefore be found to depend upon the modifications impressed upon it by light, heat, and moisture, and over these, art has obtained, even in the open air, a greater influence than at first sight would appear to be possible."

Heat is measured by the thermometer; the intensity and kinds of light have also been measured by some philosophers, but the instrument is not in general use. Moisture is measured by the hygrometer, and the one used by Mr. Daniell, and also in the Horticultural Society's garden, is of his invention, and sold by Mr. Newman in Lisle-street, London, together with the necessary tables and explanations for its use. The range of the thermometer in the shade in the open air in Britain is from 0° to 90°; in the sun it reaches 135°. The changes of moisture extend from 1,000, or saturation, to 389, or precipitation, the point at which the moisture begins to fall in the form of dew.

The improvement of natural climate consists in avoiding the extremes of drought and cold produced in nature, by wind and radiation.

"The amount of evaporation from the soil, and of exhalation from the foliage of the vegetable kingdom, depends upon two circumstances, the saturation of the air with moisture, and the velocity of its motion. They are in inverse proportion to the former, and in direct proportion to the latter. When the air is dry, vapour ascends in it with great rapidity from every surface capable of affording it, and the energy of this action is greatly promoted by wind, which removes it from the exhaling body as fast as it is formed, and prevents that accumulation which would otherwise arrest the process."

"Over the state of saturation, the horticulturist has little or no control in the open air, but over its velocity he has some command. He can break the force of the blast by artificial means, such as walls, palings, hedges, or other screens; or he may find natural shelter in situations upon the acclivities of hills. Excessive exhalation is very injurious to many of the processes of vegetation, and no small proportion of what is commonly called blight, may be attributed to this cause. Evaporation increases in a prodigiously rapid ratio with the velocity of the wind, and any thing which retards the motion of the latter, is very efficacious in diminishing the amount of the former; the same surface, which in a calm state of the air would exhale 100 parts of moisture, would yield 125 in a moderate breeze, and 150 in a high wind."

The wind from N.E. to S. E., is drier than that from any other quarter of the compass, in the proportion of 814 to 907, upon an average of the year. During the prevalence of such weather in Spring, the warmth produced by the sun, for example against a south wall, is sometimes more injurious than useful, by not being accompanied with an increase of moisture. The enormous exhalation from the blossoms, thus induced, is extremely detrimental; and requires shading from the direct rays of the sun. This state of the weather often occurs in April, May, and June, but seldom lasts many hours. Great mischief, however, may arise in a very small interval of time, and the disadvantage of a partial loss of light cannot be put in comparison with the probable destruction of blossom likely to be incurred. The shelter of mats or of bunting on such occasions would often prevent the sudden injury which so frequently arises at this period of the year.

Over the absolute state of the vapour in the air we are wholly powerless, and by no system of watering can we affect the humidity of the free atmosphere. This is determined in the upper regions; it is only, therefore, by indirect methods, and chiefly by the selection of proper screens, that we can preserve the more tender shoots of the vegetable kingdom from the injurious effects of excessive exhalation.

Radiation is the power of emitting heat in straight lines, independently of contact; it is a property of all matter, but differs in different kinds of matter. Absorption is another general property differing in a similar manner. To prove the different radiating powers of bodies, on a clear night place a thermometer upon a grass-plat, and another upon a gravel walk, or the bare soil; the temperature of the former will be found many degrees below that of the latter. "The fibrous texture of the grass is favourable to the emission of the heat, but the dense surfaces of the gravel seem to retain and fix it. But this unequal effect will only be perceived when the atmosphere is unclouded, and a free passage is open into space; for even a light mist will arrest the radiant matter in its course, and return as much to the radiating body as it emits. The intervention of more substantial obstacles will of course equally prevent the result, and the balance of temperature will not be disturbed in any substance which is not placed in the clear aspect of the sky. A portion of a grass-plat under the protection of a tree or hedge, will generally be found, on a clear night, to be eight or ten degrees warmer than surrounding unsheltered parts; and it is well known to gardeners that less dew and frost are to be found in such situations than in those which are wholly exposed."

Radiation during night cools the air on the surface of the ground to the temperature of 32° or lower, at least ten months of the year, and often in July and August to 35°. Low vegetation suffers from this cold, but from the foliage of a tree or shrub it glides off, and settles upon the ground. It also glides off from eminences and settles in hollows.

> "Any thing which obstructs the free aspect of the sky arrests in proportion the progress of this refrigeration, and the slightest covering of cloth or matting annihilates it altogether. Trees trained upon a wall or paling, or plants sown under their protection, are at once cut off from a large portion of this evil; and are still farther protected, if within a moderate distance of another opposing screen. The most perfect combination for the growth of exotic fruits in the open air would be a number of parallel walls within a short distance of one another, facing the south-east quarter of the heavens; the spaces between each should be gravelled, except a narrow border, which should be kept free from weeds."

The reasons for the gravel and the removal of weeds, the gardener will deduce from what has been stated above as to the radiating properties of surfaces. As an excellent combination for the growth of vegetables in the open garden, we would suggest the formation of beds in the direction of east and west, the surface of the bed sloping to the south, the steeper the better; on these beds sow or plant herbaceous vegetables and fruits; if in rows, let them be from north to south, or across the beds; then, to moderate the effects of radiation, and evaporation by drying winds, place wattled hurdles at the distance of ten or twelve feet across the beds, or stick in rows of pease-sticks, or other branches and spray, in that direction, during the Winter and Spring months. The judicious employment of rows of fruit trees and gooseberries will greatly contribute to the same effect in Winter, but are injurious by their shade and roots in Summer. The advantage of hurdles or branches is, that they can be moved at pleasure, and that they admit of keeping the ground in sloping beds or ridges.

The system of matting plants, Mr. Daniell thinks, is not carried to that extent which its simplicity and efficacy would suggest. Mats are generally bound too tight round bushes, or laid too close on the ground, or upon glass. To produce the full effect, the mat should always be kept at the distance of six or eight inches from the body it is meant to protect. This doctrine will be found ably illustrated in Dr. Wells's work on dew, and also in those parts of the Encyclopedia of Gardening which treat of the construction of hot-houses, and of the atmosphere. As a familar illustration of the principle, we shall farther observe, that a person standing before a large fire, or fully exposed to the brightest sun, may defend himself from excessive heat and light, by holding, at a few inches from his body, a sheet of the thinnest muslin; but if that material, or any other, is applied to his body in close contact, it will have very little influence as a screen. The same muslin integument will be equally effectual or ineffectual in protecting from cold, according as it may be placed at a short distance from, or in contact with, the body to be protected. A gardener will seldom go wrong in practice if he bears in mind that heat is given out by all bodies in straight lines or rays, as light flows from the sun; that those rays of heat may be reflected back again by any body, however thin; and that any covering, whether thick or thin, placed in close contact with a heated body, will not reflect back its heat, but, on the contrary, if of a dark colour, or black, will promote its escape by radiation.

The above is what may be called the practical essence of that part of Mr. Daniell's paper which treats of the improvement of natural climate. By reflecting on it the cultivator will be convinced of the reasonableness of many parts of practice, which he had, perhaps, followed from habit; he will see and feel the importance of walls, copings, hedges, protection from the east, from sudden gleams of sunshine, of the warmth retained by woody undergrowths, and, generally, the advantages of stagnating air; of placing gardens on sloping ground, of growing crops on ridges, and a great variety of other things. He will also be able to account for the effects of cold in hollow places; for the difference of effect between dry cold and moist cold; for the lower branches of a tree being sometimes injured by frost, when the upper part has escaped injury; of tender plants, in a northern or western exposure, sometimes escaping unhurt, and when those against a south wall have been killed, &c.

Artificial climates, Mr. Daniell observes, being entirely dependant on art, require a more extended acquaintance with the laws of nature, and greater skill and experience in the means of protection. "The plants which require this protection are in the most artificial state which it is possible to conceive; for not only are their stems and foliage subject to the vicissitudes of the air in which they are immersed, but in most cases their roots also. The soil in which they are set to vegetate is generally contained in porous pots of earthenware, to the interior surface of which the tender fibres quickly penetrate, and spread in every direction. They are thus exposed to every change of temperature and humidity, and are liable to great chills from any sudden increase of evaporation."

The inhabitants of the *hot-house* are all natives of the torrid zone, a climate distinguished by an unvarying high degree of heat, and a very vaporous atmosphere. When air is very hot, it will exhale moisture from whatever objects it may come in contact with, which possess that quality. In a hot-house, when all the paths and walls are in a dry state, exhalation to an extraordinary degree takes place, from the only sources of moisture,—the leaves of plants and the earth in their pots. This "prodigious evaporation," as Mr. Daniell calls it, is injurious to the plants in two ways; first, by chilling their roots by evaporation from the surface and sides of the pots, on the same principle that water is cooled in Spain and India, by being put in porous earthen vessels: and, secondly, by exhausting the vegetative powers of the plant. Vegetables also have the power of absorbing moisture from the atmosphere, and must consequently suffer in proportion as this is in a dry arid state. Those three considerations show the great importance of a vaporous atmosphere in hot-houses; and the way to supply it is, by keeping the floor of the house and the surface of the flues continually wet, when the temperature is high. "An atmosphere," Mr. Daniell observes, "of great elasticity, may thus be maintained in a way perfectly analogous to the natural process. When steam is employed as the means of communicating heat, an occasional injection of it into the air may also be had recourse to; but this method would require much attention on the part of the superintendant, whereas the first cannot be easily carried to excess."

To obviate the evil effects of cold nights in the Winter season, Mr. Daniell suggests the idea of double glass. "The lights of many frames, which are not commonly in use in Winter, might, without much trouble, be fitted to slide over the hot-houses during the severe season; and in the Spring, when they are wanted for other purposes, their places might be supplied at night by mats or canvas."

The atmosphere of the *green-house* should be treated like that of the hot-house, but not to the same extent.

Mr. Daniell concludes by observing, that a frequent consultation of the indications of the hygrometer is quite as necessary to the horticulturist as those of the thermometer. Undoubtedly, the hygrometer may be consulted with advantage; but if the gardener, whenever he maintains a high degree of heat in the hot-house, takes care to have the paths flooded with water, three or four times a-day, he cannot be far wrong; for the atmosphere will take up a certain degree of moisture, according to its temperature, and the remainder on the floor can do no harm. In this respect there is an important difference between supplying heat and supplying vapour; heat may be easily overdone, but not vapour, unless it is supplied from a boiler, in the form of steam. The safe course for the gardener to pursue, is to maintain a good heat, whether by the sun or fire, and keep his hot-house floor continually moist, He will thus maintain, as Mr. Daniell observes, "in a way perfectly analogous to the natural process," an atmosphere of the natural and proper degree of humidity. This has been done by various gardeners with whom we are acquainted, for many years, in some hot-houses for twenty years; and, as an instance, near us, we may mention the Comte de Vandes's garden, Bayswater, where it has been practised since 1816, and where the plants have been for that time, and now are, in a state of luxuriance not to be surpassed. No hygrometer was ever used there, nor can there be much occasion for using it, but for the sake of experiment. At any rate, a gardener not having an hygrometer should not assign that as a reason for not having the atmosphere of his hot-house sufficiently charged with vapour We may mention here, that an eminent cultivator of the pine-apple, who has practised the system of keeping the floor of his house moist for upwards of twelve years, and raised some of the largest fruit ever grown in England, informed us some years ago, that he found advantage from occasionally allowing the atmosphere of his stove to become quite dry for several hours, and afterwards watering every part of it, to fill the air with vapour. Variation, even sometimes to extremes, seems preferable to uniformity of treatment, however good. This is in perfect unison with Mr. Knight's papers on this subject. It is but doing justice to practical gardeners thus to notice, that they have for a number of years past been practising what Mr. Daniell states, (p. 25.) has been "tried at the Horticultural Society's garden at my suggestion," lest it should be thought, by general readers, that Mr. D. or the Society meant to claim the practice as their invention.

2. *On the Use of Charcoal Dust, as a Top-dressing for Onions, and as a Cure for the Clubbing in Cabbages, &c. In a Letter to the Secretary.* By Mr. Thomas Smith, C.M.H.S., Gardener to Matthew Bell, Esq. F.H.S., at Woolsington, Northumberland. Read August 3. 1824.

The charcoal-dust here made use of, is the refuse of a charcoal pit. It is spread upon the ground about half an inch thick, before the sowing of the seed, and merely skuffled in with the point of a spade, so as to mix the top-soil and charcoal-dust together. Six years' experience have convinced Mr. Smith that it is a remedy for the grub and mouldiness in onions; and he has repeatedly proved, that it effectually prevents the clubbing in the roots of cabbages and cauliflowers.

3. *Observations on, and an Account of Plants growing in the Neighbourhood of Constantinople, Seeds of which were collected and transmitted to the Horticultural Society of London. In a Letter to the Secretary.* By the Rev. Robert Walsh, LL.D. and C.M.H.S. Read July 6. 1824.

Dr. Walsh amused himself in the neighbourhood of Constantinople, with endeavours to ascertain the identity of the plants existing there, with those described by Theophrastus, Dioscorides, and Pliny. The following is the result.

Cercis siliquastrum, but not the kerkis of Theophrastus, found clothing the shores of the Bosphorus and Mount Libanus: the flowers burst out from every part of the branches and trunk, nearly down to the root; are gathered and used in sallads.

Ceratonia siliqua, described by Dioscorides and Pliny; almost the only tree that grows at Malta; also in the islands of the Archipelago, and in great abundance in the wilderness of Palestine, where its produce is at this day used for food. The substance of the pod is thick and pulpy, and remarkably sweet and nutritious, resembling manna in taste and consistence. It is sent from Palestine to Alexandria in ship loads, and from thence over the Mediterranian, and as far as Constantinople, where it is sold in all the shops. It is occasionally to be bought in London under its Spanish name of Algaroba bran.

Celtis australis; common; conjectured by Sibthorp to be the lotos of Dioscorides, which Homer says has so sweet a taste, that those who eat it forget their own country. "It bears a berry of a light yellow, which changes to dark brown, it has a sweet pleasant taste, and the modern Greeks are very fond of it."

Cupressus horizontalis, "was supposed by Pliny to be the male of C. sempervirens, and modern botanists consider it only a variety, but undoubtedly it is a different species. The character of the whole tree is distinct and permanent, the branches project as horizontally as those of the oak, and the tree more resembles a pine than a cypress. It is in great abundance, mixed with the C. sempervirens in all the Turkish cemeteries. Wherever a Turk of respectability buries one of his family, he plants a young cypress at the head of the grave, as well because its aromatic resin qualifies the putrid effluvia of the place, as because its evergreen foliage is an emblem of immortality. It is never planted in the cemeteries of the modern Greeks, though it was from them, perhaps, the Turks adopted the practice."

Diospyros lotus, is not described by the ancients, but is found every where along the Bosphorus. "It was originally brought from the country between the Euxine and Caspian seas; and is therefore called the date of Trebisonde. It bears abundantly a light brown fruit, nearly as large as a walnut, which is sometimes sold in the markets under the name of Tarabresan Curmasi. The recent fruit is austere, but would make a good conserve."

Elæagnus angustifolia, the wild olive of Theophrastus, Dioscorides, and Pliny, is common about Constantinople, in low moist situations. "The fruit is sold in the markets under the name of Ighidé agághi, and is usually brought from the low grounds about Scutari, and other similar places on the Asiatic shore. It abounds with a dry, mealy, saccharine substance, which is sweet and pleasant, and has the property of retaining a long time its usual size and form."

Rhamnus Zizyphus. " This tree has excited great controversy among botanists; and Linnæus, Willdenow, Michaux, and Persoon, all differ in their description of it. Shaw supposes it was like the lotus of Theophrastus and Pliny, and Sir James Smith, that it was the paliurus. What is certain, however, is, that it is the tree which produces the fruit sold in abundance in the markets of Constantinople, under the name of Hunnab agaghi, and which has for a long time been imported into the west of Europe under the name of Jujube. It is minutely and accurately described by Pomet, Lemery, and Tournefort, and forms an article in the old Pharmacopœias. I met with it frequently in the Ionian Islands, and the Turks of Constantinople plant it before their coffee-houses, with other trees, to enjoy the shade and fruit in their season."

Rhamnus Paliurus, forms the hedges of Asia, which are most impassible fences. " I am disposed to think that this is the real Christ's Thorn, rather than that called Spina Christi. The seeds are sold in the herb-shops of Constantinople, and the native hakims, or doctors, prescribe them in many complaints, under the name of Xallé. They are also used as a dye."

Melia azadarach was not known to the ancients, though found " abundantly all through the Mediterranean and the Archipelago, in Europe, Asia, and Africa. It is always planted in the area of a monastery, and the Caloyers, or Greek monks, form the ribbed seeds into beads, and hence it is called the bead-tree. The white pulpy exterior of the seeds is said to be highly poisonous, and Avicenna, the Arabian physician, cautions people even against the leaves and wood; hence the Arabs call it zederact, which signifies poison; the seeds are never eaten by birds. It is, however, a very beautiful tree, with large, compound, pinnate foliage, and rich spikes of lilac flowers."

Acacia julibrissin; an exceedingly beautiful tree, and the largest of the genus; that in the British palace garden at Constantinople has a trunk of a foot in diameter. The foliage is highly susceptible of the variations of the atmosphere; it affords a thick shade on a bright day, but when it threatens rain, or when a cloud obscures the sun, the leaflets immediately close their under surface together, till the sun again appears. " The flowers consist of large pencils or clusters of stamens, of a bright pink hue, and rich silky texture, and hence the Turks, who are particularly fond of the tree, have given it the soft and fanciful name of gul-ibrisim, the silk-rose, and hence is derived its specific name with botanists. It is now found in all the gardens of the Bosphorus, but it is not a native, nor is it described by the ancients."

Pistacia terebinthus, known and described by Dioscorides, Theophrastus, and Pliny. Gnat-like insects breed in the leaves, the cuticles of which, by being punctured, become fungous, and swell into fleshy follicles, of a bright scarlet hue, strong resinous odour, and clammy feel, full of turpentine. "These are so abundant, sometimes, as to cover the whole surface of the tree, and give it the appearance of bearing rich flowers or fruit. The trunk of the tree, when perforated, yields abundantly that fine resinous oil called Cyprus turpentine. For its aromatic quality, the Greeks and Armenians plant the tree in their cemeteries, as they do the cypress. Here the Turks make them butts to discharge their topheks or pistols at; the stems, therefore, are all perforated, and continually, in the season, stream with turpentine. There is one in the British palace garden, which has been noticed by Sestini and others, for its size and remarkable beauty: it measures twelve feet in circumference, rises nearly as high as the top of the palace, and shades a circle of one hundred and eighty yards. Notwithstanding their size, they are sometimes epiphitical, growing out of other trees. A phenomenon of this kind exists at the promontory of Chalcædon, where an enormous pistacia is growing out of a more enormous cypress; and this is noticed by Andreossi in his work sur le Bosphore. They grow every where among the ruins of the walls of Constantinople, particularly in the breach where the Turks entered, "marking," as Clarke says, "the spot where the last of the Paleologi fell."

Pistacia lentiscus, common in the days of Theophrastus and Dioscorides, as at present, in the island of Scio, and producing then as now, great abundance of the transparent gum called mastic. It is much used by Turkish women to preserve their teeth and improve their breath.

Smilax aspera and excelsa; described by Theophrastus; common in the woods and hills of the Bosphorus; and the roots are used in decoctions as a substitute for sarsaparilla. "S. excelsa climbs to the top of the highest trees, and descending in streaming branches, forms a lofty green wall by the road side, which looks curious; and when covered with a profusion of rich red berries, in Autumn, is very beautiful. It is well adapted for forming arbours."

Euonymus Europæus var. The aril is of a rich scarlet, which, when the pod opens, becomes conspicuous and remarkable.

Cassia sp.? The leaves are used for those of senna, to which they have a strong resemblance.

Hedera chrysocarpa. Dioscorides and Pliny. Rare, seeds medicinal.

Prunus cerasus, two varieties. "The first of these varieties is a cherry of enormous size, which grows along the northern coast of Asia Minor, from whence the original cherry was brought to Europe. It is cultivated in gardens, always as a standard, and by a graft. The gardens there consist wholly of cherry-trees, and each garden occupies several acres of ground. You are permitted to enter these, and eat as much fruit as you please, without payment; but, if you wish to take any with you, you pay ten paras an oke, about a half-penny per pound. The second variety is an amber-coloured transparent cherry, of a delicious flavour. It grows in the woods, in the interior of Asia Minor, particularly on the banks of the Sakari, the ancient Sangarius. The trees attain a gigantic size; they are ascended by perpendicular ladders, suspended from the lowest branches. I measured the trunk of one: the circumference was five feet; and the height, where the first branches issued, forty feet; the summit of the highest branch was from 90 to 100 feet, and this immense tree was loaded with fruit."

Phœnix dactylifera. "A fruit-bearing branch of this tree was sent to me from Damietta, in Egypt, as a kind which is rare, and highly prized. The fruit was not ripe; but I was directed to cover the end of the branch with a piece of bladder, and hang the branch against the wall: the fruit, by this process, gradually ripened, of a large size and good flavour."

Platanus orientalis. "The Turks on the birth of a son, plant a platanus; as they do a cypress on the death of one. In the court of the seraglio is a venerable tree of this species, which, tradition says, was planted by Mahomet II. after the taking of Constantinople, to commemorate the birth of his son, Bajazet II., the trunk of which is fifty feet in circumference. There is another of more enormous size at Buyukderé, on the Bosphorus; it stands in a valley, and measures forty-five yards in circumference! It, in fact, now consists of fourteen large trees, growing in a circle from the same root, but separating at some distance from the ground. The Turks sometimes encamp here; and the Ben Bashee pitches his tents in the centre of this tree of trees. The immense size to which the platanus attains has been the wonder of antiquity: Pliny describes several, in one of which Lucinius Mucianus gave a supper to a company of twenty-two friends."

Ricinus Communis. Called Kroton, and Ricinus, from the resemblance of the seeds to the tick insect, which fastens on dogs' ears. Seeds taken as pills for a purgative; abundant on the rock of Gibraltar, but does not ripen its seeds on the Bosphorus.

Cistus crispus, creticus, and salvifolius, "cover all the hills in the islands of the Archipelago and sea of Marmora; they are gummiferous, and, in June and July, secrete copiously a very fragrant gum, which adheres to the goats' beards that browse on the plant, and is combed off, like the ladanum, for which it is sometimes substituted. They are all distinguished by hypocistis, a succulent parasitic, of a rich red colour, which I found growing from the roots, as described by Dioscorides."

Poterium spinosum; common among the above-named cisti, with prickly branches, like furze in England; known to the ancients, but whether under the name of stoebe or poterion is uncertain.

Vitex agnus-castus; found on the banks of all the rivers of Greece and Asia Minor, along with nerium oleander. It was called agnos (lamb) by the ancients, because carried by the priestesses in the feast of Ceres, a lamb being the usual animal sacrificed.

Quercus ægilops, coccifera, and pubescens; common in the islands of the Archipelago.

Pinus maritima, and pinea; common in the islands of the sea of Marmora. "The cones of P. pinea are gathered and sold in the markets. When exposed to the fire, they open, and the seeds, as large as hazel-nuts, then drop out; they are eaten like nuts, and called by the Turks fistik."

Lavandula stœchas; the latter name by Dioscorides from the Stœchades, now the Hieres Islands, near Marseilles, from whence it first came. It is very difficult to cultivate in a garden. It covers the hills in all the islands of the Archipelago and sea of Marmora.

Ruscus racemosus, the Daphne Alexandria, or Alexandrian laurel of Dioscorides, found in the islands of the Archipelago.

Kœlreuteria paniculata; a native of China. A plant remaining in what was Sherard's garden at Tedikui, about ten miles from Smyrna.

Artemisia sp. Pretty, aromatic; produced spontaneously in gardens, and used in salads.

Erigeron graveolens. The conyza of Dioscorides; stinking; used against the bite of all manner of vermin, found in large patches in the islands of Marmora.

Pancratium maritimum, called Pancration, or all-excelling, by Dioscorides. "Forskal found it in great abundance in Palestine, and supposes it was the lily of the Scripture, like to which, our Saviour said, Solomon in all his glory was not arrayed.

It grows in all the sandy plains of Asia Minor, and is propagated by seed as well as bulbs. I found it among the ruins of Teos, and am disposed to think it was the lily of Anacreon."

Arum dracunculus. Dioscorides. Found in the plains of Brusa.

Ferula sp.: eight feet high; covers the islands of Marmora like a forest of young trees; the narthex of Dioscorides, and ferula of Pliny.

Phytolacca decandra; introduced to Constantinople from America, along with tobacco, now common in humid situations. "The berries yielded a rich purple juice, which was formerly used to colour red wine, but is now confined to sherbet sugar, which the Turks manufacture of a rich red colour."

Cyperus esculentus. The tuberous knobs of the roots are sold in the markets. The manna of the Greeks, abdalassis of the Turks, and kuperios of Dioscorides.

Centaurea solstitialis; pretty; found sparingly on the hills about Constantinople.

Momordica elaterium. Pliny. The capsule is a tube, "without valves, from whence the seeds seem to be projected by a process similar to that of shot from an air-gun, namely, the expansion of some elastic fluid within the tube." It is abundant around Constantinople, used in medicine as in England, and for jaundice by the Turks, as it was in the time of Dioscorides.

Solanum Egyptiacum, Sodomeum, and Melongena, were not known to the ancients. "The first of them bears a bright scarlet fruit; and is a rare plant at Constantinople, never sold in the markets, and seldom met with in private gardens. It is used in soups. The second bears a large, rich, dark purple fruit, which looks very inviting. It is sometimes punctured by a species of cynips, which gangrenes the fruit, and converts the interior into a dry powder like ashes, while the outside retains its plump and beautiful aspect, and hence it is called the apple of Sodom. Hasselquist found it on the shores of the Dead Sea. It is distinguished by spines on the stem and calyx. The third bears a long black fruit, of which there are several varieties in shape and colour. It is sold in the markets in almost as great abundance as gourds and melons, and used in the same manner in soups. It is called by the Turks patlindjam; and its first appearance in the markets is always attended with a strong N.E. wind, which for that reason is called in the Armenian Almanack, patlindjam melktem; and all the ships bound for the Black Sea hasten to sail before the fruit appears in the market and the wind sets in, as it continues several weeks."

Brassica gongylodes and eruca. "The first of these has a protuberant swelling of the stem, from whence the leaves issue, and this is the only part of the plant used. The second is a fetid, offensive plant, but highly esteemed by the Greeks and Turks, who prefer it to any other salad."

Hibiscus esculentus. The unripe pod is stewed with sauce; sold in the markets green, for immediate use, and dry on strings.

Onopordum elatum adorns all the hills about Constantinople.

Papaver somniferum; the Opon of Dioscorides.

Cicer arietinum and lens. Dioscorides and Pliny. The first "is used in great quantities in Constantinople, and mixed with all their dishes and pilafs, where it is always whole and never bruised. It is also used in great abundance parched, when it is called leblevi. This operation is performed by Arabs, who have a peculiar skill in detaching it from the cuticle while toasting it. When prepared in this way, it is sold about the streets in sieves, by the Arabs, who are called Leblevigé, and form a numerous body. The practice of parching this pea is of great antiquity; it is not only mentioned by Plautus and Aristophanes, but Shaw supposes it to be the "parched pulse" mentioned in Scripture. The second species is not so abundant; it is called by the Turks mergimêts. It is flattish on one side, and convex on the other, and hence called lens."

Phaseolus nanus, and chonda; "sold in great abundance in the markets, and called by the Turks beyas fasiula, or white bean, to distinguish them from scarlet runners."

Dolichos lablab; cultivated in all the gardens, but not sold in the markets.

Ipomæa purpurea, villosa, and coccinea. "These grow in Constantinople with great luxuriance and beauty; they twine round poles and climb up trees, forming with their rich and varied flowers the brightest wreaths."

Amaranthus hybridus and caudatus. "The first is a native, and grows spontaneously; the second is exotic; they both attain to a great size, altogether uncommon in England. The A. caudatus is trained by a pole, and rises to the height of six or seven feet, from whence the pendant spikes of flowers hang down with great beauty, and are so long as sometimes to trail upon the ground."

Cucurbita lagenaria and claviformis. "These are varieties of the same gourd: the first exactly resembles a bottle; the second a club, which sometimes attains the length of six or seven feet. The ancients were fond of cultivating this gourd; and Pliny is minute in describing the mode and uses, which are the same nearly as at the present day. I imagine this to have been the real gourd of Jonas. They grow rapidly when well watered, and wither immediately when left dry; in a few weeks forming dense shady arbours, under which the people of the East sit and smoke. When the fruit is young, it hangs down inside the arbour like candles; in this state it is cut, and boiled with forced meat, stuffed in the hollow part with rice; it is then called dolma by the Turks; and is in such general use, that a large district in the vicinity of Pera is called Dolma Bakché, or Gourd Gardens, from the cultivation of these plants."

Cucurbita cidariformis. "The production of this gourd, as given by the ancient writers, is curious: a gourd was planted in Campania, in the vicinity of a quince, and it immediately adopted its form in addition to its own. In fact it resembles a large quince, laid on the top of a flat melon. This curious fruit is called here the Turk's turban, which it resembles in shape and vivid colours. It is too rare to be sold in the markets, but is cultivated in private gardens, and used in soups."

Cucurbita aurantia, and pyriformis. "These exactly resemble the fruit after which they are named; the one an orange, and the other a pear."

Cucurbita potiro. "The gourd most in use in Constantinople; the fruit is heaped up in large piles, and kept under tents in the markets for six months in the year. There are two kinds or varieties: one long, with orange-coloured fruit; the other round, with white-coloured fruit. They are called by the Turks bál cabaghi, and used in all their soups."

Cucurbita sp.; Evadghi cavac, Turkish; by far the largest gourd in these countries; it is quite white, and in the markets resembles huge snow-balls, particularly so, as it is in season in winter."

Cucurbita citrullus. The famous water-melon, so highly prized and universally used all over the East; it is the great luxury of the common people in Constantinople, and refreshes the hammals, or porters, like ale in England, and tea in China. Strangers are warned by writers against the intense cold of this fruit; but the people of Constantinople devour it alone, without pepper, or any other aromatic, in the hottest weather, with perfect impunity. The Turks call it carpoos; and give the same name to their artificial globes, from their resemblance to this fruit, which is a perfect sphere.

Cucumis melo; several varieties. "Six varieties of melon are cultivated in Asia Minor, particularly about Angora.— There is one variety so very delicate, that the seeds were given to me carefully sealed up in a bottle, with directions that it should not be opened till the seeds were about to be sown, lest the essence should evaporate. The following directions were also sent as to the time and manner of cultivation: — In the beginning of May the seeds are thrown into water; those that float are thrown away, and those that sink are suffered to remain twelve hours. The ground is chosen rich, and manured with pigeon's dung. A small cavity is made, in which several seeds are sown together; when they come up, three or four only of the most vigorous plants are suffered to remain, the rest are pulled up and thrown away. The fruit ripens in August, and is so rich that no sugar or other seasoning is ever used with it. The other kinds of melons cultivated about Constantinople, and sold in the markets, are called by the general name of cavun; and, when they are larger or longer than usual, vodinà cavun. They generally sell for about twenty paras the oke, or about a penny per pound. One variety is called kiskaduo by the Turks, and is much esteemed."

4. *On the Cultivation of the Madeira Vaccinium, (V. Padifolium of Smith, and Hort. Brit.) in the Open Air. In a Letter to the Secretary.* By Mr. William Foulk, Gardener to Sir Everard Home, Bart., F.H.S., at Ham, Surrey. Read Dec. 7. 1824.

This vaccinium is of luxurious growth in bog-earth; it bears freely, and ripens early in October, so as to come in succession to currants and raspberries. It is used like the cranberry.

5. *Report upon the New or Rare Plants which have flowered in the Garden of the Horticultural Society at Chiswick, from its first Formation to March* 1824. By Mr. John Lindley, F.L.S., &c., Assistant Secretary for the Garden. Read July 20., and August 3. 1824.

In his selection, Mr. Lindley has confined himself to "such as have been most particularly deserving notice, either for the beauty of their flowers or foliage, or for circumstances connected with their history." A similar report is intended to be made annually. This first report is arranged as tender plants and hardy plants; and each of these divisions into such as are shrubby, herbaceous, bulbous, or otherwise. The plants remarked on by Mr. Lindley, being all described and treated of in our Encyclopædia of Plants, we shall do little more here than enumerate them.

TENDER PLANTS.

Trees or Shrubs.—Calceolaria rugosa and integrifolia, Hort. Brit., elegant under-shrubs, nearly hardy, propagated by cuttings, placed under a hand-glass in a cold frame.

Astrapæa Wallichii, sent to the Chiswick garden from Kew. Very ornamental; cuttings planted in silver-sand, without moisture, root in the course of six weeks.

Laurus aggregata, Hort. Brit., L. glauca in some collections. A low branching shrub, flowering in Winter.

Guatteria rufa, a low plant, with cordate leaves, of easy propagation.

Berberis fascicularis; rare; fine holly-like leaves, yellow flowers, and dark purple fruit. (See *Gard. Mag.* pp. 216 and 220.)

Hypericum Cochinchinense, a green-house plant.

Diplolepis vomitoria and apiculata, hot-house plants; Cyminosma pedunculata; Hæmadictyon venosum, a showy stove-climber; Pergularia sanguinolenta; Glycosmis citrifolia, a stove plant, bearing edible fruit, about the size of currants; Ixora barbata; Lantana fucata; Euonymus chinensis; Clitoria arborea; Oxalis Plumieri.

Herbaceous Plants.—Marica Sabini rivals in beauty of flowers M. northiana; "named in compliment to Captain Edward Sabine, of the Royal Artillery, F.R.S., &c., to whom the Society is under much obligation for the numerous and important services he, during his voyage to Africa and South America, rendered the Society, in the protection and assistance afforded the collector (Mr. Geo. Don) who accompanied him."

Lobelia campanuloides; Canna iridifolia; Chlorophytum orchidastrum; Ipomœa paniculata; Aneilema sinicum.

Primula sinensis, introduced by Captain Richard Rawes in 1821, and presented by him to his relative, Thomas Carey Palmer, Esquire, of Bromley, in Kent.

Limnocharis Plumieri, a fine aquatic, native of Maranham; Phaylopsis longifolia; Alströmeria flos Martini; Pitcairnia staminea; Ocymum febrifugum.

Orchideous Plants.—In the garden of Chiswick are about 180 species. Catasetum cristatum; Prescotia plantaginea; Dendrobium squalens; Ponthieva petiolata; Spiranthes pudica; Angræcum luridum; Eulophia Guineensis and gracilis have flowered.

Bulbous Plants.—Ornithogalum corymbosum, from Chili; the Peruvian women twine the flowers, which are very fragrant, in their hair. Pancratium patens; Amaryllis Forbesii, cyrtanthoides, and candida.

HARDY PLANTS.

Rosa Biebersteinii, in general aspect, resembles R. rubiginosa, passing into R. spinosissima.

Prunus pseudo-cerasus, the Chinese cherry, differs from the common cherry, "in having its flowers growing in racemes, not fascicles; in their stalks being hairy; and, to a certain degree, in the outline of its leaves. Placed in a forcing-house, it ripened its fruit in fifty days from the time of flowering, and under circumstances unfavourable to forcing cherries in general. Its fruit is small, of a pale red colour, of a pleasant subacid flavour, with a small smooth stone. From the facility with which it bears forcing, it is to be anticipated, that it may hereafter prove an object deserving attention."

ANNUAL PLANTS.

Euphorbia cyathophora; Nicotiana repanda, the true Havannah segar tobacco; Nicotiana nana; Calceolaria scabiosæfolia.

Schizanthus pinnatus, an elegant annual, now common, and the seeds sold in the seed-shops, with S. porrigens, and other half-hardy annuals.

Schizopetalon Walkeri, another charming addition to our half-hardy annuals.

Ammobium alatum, a good addition to the class of flowers popularly called everlastings.

Œnothera tenella; Loasa nitida and Placei.

Bulbous Plants.—Allium striatellum and Cowani; Amaryllis longifolia.

Herbaceous Plants.—Œnothera acaulis; very dwarf, with pure white flowers, which expand early in the evening, and remain open during the night, closing by nine o'clock next morning. A good border plant.

Senecio venustus; handsome, and easily cultivated.

Calendula incana, now (1826) a weed in Chelsea Garden.

Of the above 61 plants, 26 have been introduced by the Society, and of these 26, 14 were sent home by that indefatigable collector, Mr. George Don.

6. *On the Cultivation of Strawberries.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read December 21st 1824.

Mr. Knight, referring to Mr. Keens's paper on the strawberry (Hort. Trans. vol. ii. p. 392. and Encyc. of Gard. § 4717.), states that it contains some opinions which he does not think well founded; and he adds, "as I rarely see in gardens of my friends that which, in my opinion, is even a moderately good crop of strawberries, (!!) I shall proceed to state some conclusions which theory and practice have conjointly led me to draw, relatively to the most advantageous modes of culture of those species and varieties of fruit."

Mr. Knight agrees with Mr. Keens that the Spring is the only proper season for planting. The aggregate produce in two seasons of a plantation made in August will generally be found to be less in quantity, and very inferior in quality, to that afforded in one season, of equal extent, made in the Spring. Mr. Keens suffers his beds to continue three years, and plants his hautbois and pines at eighteen inches apart in the rows, with intervals of two feet between the rows. Mr. Knight plants the Downton strawberry, which requires as much space as the hautbois or pine, in rows at sixteen inches distance, with only eight inches distance between the plants; and he has found each plant at such distances, nearly, if not quite as productive as when placed with much wider intervals. The old scarlet strawberry Mr. Knight found to bear admirably at a foot distance between the rows, and six inches plant from plant; and he thinks he has obtained more than twice the amount of produce from the same extent of ground which he should have obtained if his plants had been placed at the distances recommended by Mr. Keens. The beds, however, are totally expended at the end of sixteen or seventeen months from the time of their being formed, and the ground is then applied to other purposes. "I have consequently the trouble annually of planting; but I find this trouble much less than that of properly managing old beds: I am quite certain that I obtain a much larger quantity of fruit, and of a very superior quality, than I ever did obtain by retaining the same beds in bearing during three successive years, from the same extent of ground."

Mr. Knight approves of Mr. Keens's mode of placing some long dung between the rows; but to his practice of digging between the rows, he says, "I object most strongly; for by shortening the lateral roots in Autumn, the plants not only lose the true sap, which such roots abundantly contain, but the organs themselves, which the plants must depend upon for supplies of new food in the Spring, must be to a considerable extent destroyed. This mode of treating strawberry plants is much in use among country gardeners, and I have amply tried it myself, but always with injurious effects; and I do not hesitate to pronounce it decidedly bad." In this we entirely agree with the president, and recommend the study of his remarks to every cultivator. The following observations respecting runners deserve the gardener's attention, as being calculated to guard him against the two extremes, of taking off all or none. "Taking off the runners is not expedient in the mode of culture I recommend, and, under all circumstances, this must be done with judgment and caution; for every runner is, in its incipient state of formation, capable of becoming a fruit-stalk, and if too great a number of the runners be taken off in the Summer, others will be emitted by the plants, which would, under other circumstances, have been transmuted into fruit-stalks. The blossoms, consequently, will not be formed till a later period of the season, and the fruit of the following year will thence be defective alike in quantity and quality; and, under the mode of culture recommended, a large part of the runners, when these are taken off in Spring, will be required to form the new beds."

Alpine strawberries Mr. Knight raises from seed early in Spring, or from runners of the preceding year planted in the beginning of April, at one foot apart, in beds four or five feet wide. "It is expedient, in the culture of these varieties, that the superficial soil should be extremely rich; because much the most valuable part of their produce is obtained from runners, of the same season, and these require to be well nourished. If a good alpine variety be planted, the blossoms of all the runners will rise with the third leaf. The best which I have seen affords a white fruit, similar in form to the red variety; and the old plants of this, as well as the runners, continue to bear till their blossoms are destroyed by frost; and both the white wood, and white alpine strawberries, appear to me to retain their flavour more perfectly in Autumn than the red."

7. *Directions for managing Tigridia Pavonia during the Winter Months. In a Letter to the Secretary.* By Mr. John Damper Parks. Read December 7th, 1824.

Instead of cutting down the stems and taking up the roots, Mr. Parks takes up the roots with some mould attached to them, and puts them in pots as small as their size will conveniently admit, without disturbing the bulbs. He then places them in a cold pit, and finds them in the March following more large and plump than roots deprived of the earth in Autumn, and kept in a dry place; a judicious practice, applicable to different other tender bulbs, such as Gladiolus cardinalis.

8. *Notices of Communications to the Horticultural Society, between Jan. 1. 1822. and Jan. 1. 1823, of which separate Accounts have not been published in the Transactions. Extracted from the Minute Books and Papers of the Society.*

The Rev. G. Swayne, of Dyrham, near Bath, protects the branches of fig-trees during Winter by old newspapers. He applies them in the month of December, "by winding long stripes round the branches, in the manner in which surgeons do their bandages, making the paper reach as far as possible, without leaving any part uncovered, and giving it a twist on the end, to fix it. As soon as the branch has been prepared, it is attached to the wall with shreds, in two places, one at the commencement of the paper, and the other near the end. Towards the latter end of April, when the young fruits are swelling, the covering is removed, taking care to do so on a mild but cloudy day, that the change may not be too great from their covered state to that of exposure. If the fig-trees have not been previously pruned, to save unnecessary labour such branches only as are intended to be left for fruiting need be covered." Printed paper is preferred to plain paper, because, having a considerable portion of its surface covered with the oil of the ink, it does not readily imbibe moisture.

The Rev. W. Phelps, of Mellifont Abbey, near Wells, Somersetshire, protects "wall-trees from the effects of frosts by constructing broad ladders, resembling hurdles, of a length sufficient to reach to the top of the wall, when placed obliquely against it, 3 feet distant at the bottom, and of a width not exceeding 6 feet, in order that they may be more portable. The rounds of the ladder, which are 18 inches apart, are wrapped with straw or hay-bands, or with refuse flax, or hemp-dressings. The obliquity of the ladder brings the rounds into such a position, one above the other, that the effects of frost, and of cutting winds, are completely guarded against, and yet the sun's rays are admitted, and a free circulation of air allowed. The ladders are placed in front of the trees, just before the blossoms begin to expand, and continued there till the fruit is of a good size, when they may be removed to a shed, to remain till next season. With common care they will last several years, and the straw or hay-bands may be easily renewed. The experience of four years has fully confirmed Mr. P. in the opinion of the utility of this kind of protection."

Mr. James Dall, gardener to the Earl of Hardwicke, at Wimpole, in Cambridgeshire, has raised and fruited pines, for five years and upwards, in pits somewhat on Mr. M'Phail's plan, but heated both within and from without by leaves, instead of dung or fire-heat.

Mr. James Smith, gardener to the Earl of Hopetown, at Hopetown House, in Scotland, forces rhubarb in boxes placed in a mushroom-house, or other dark room, and watered occasionally. Roots taken up in December will, with from 55° to 65° of heat, be blanched and fit for cutting in February. A fresh box brought in every three weeks will afford a regular supply, and the plants, when done with, may be taken out of the boxes, and replanted in the open ground, so as to be fit for a similar use the ensuing Winter.

John Wedgewood, Esq., blanches and forces Buda cale in the manner of sea-cale, and finds the plants so treated become peculiarly delicate.

Mr. John Reid, the inventor of the new syringe (*Encyc. of Gard., fig.* 185., *and of Agr. fig.* 665.) proposes to glaze sashes by forming grooves on each side of the sash-bar to receive the glass and putty. He thinks that, by exposing a smaller surface of putty to the air, less wet will be admitted into the house. We have great doubts as to this plan being an improvement.

Mr. John Hunneman sent to the meeting of the Society several roots of the Teltow turnip, or French turnip, a small and excellent spindle-shaped root, not exceeding the size of a small long-rooted radish, grown principally in the neighbourhood of Teltow, in Brandenburgh. The seed is sown twice a year; in April, to be gathered about July; and in August, in ground from which the rye crops have been cleared, or where early potatoes have been previously grown, to be taken up late in the Autumn, "and preserved in cellars, in dry sand, where they will keep good till the Spring. The poor and sandy soil of the Teltow district seems almost necessary for the growth of this turnip, for it degenerates when grown at a distance from it. A total absence of manure is essential to their perfection. As a vegetable it is much used in Germany; it is of great excellence, and is dressed in a variety of ways, but generally stewed." We may observe here, that in Autumn the Teltow, or any other turnip, may be sown on the richest soil, and yet retain its flavour; but this is not the case in Spring or Summer.

Sir C. M. L. Monck, Bart., destroys worms in pots by an infusion made with boiling water and fresh walnut-leaves. Lime-water is more effectual.

Mr. P. Day, Gardener to the Countess of Dysart, Ham-House, near Richmond, sent to the meeting a tree cabbage-plant in seed, the stem of which was twelve feet high, with abundance of branches.

• *Mr. James Smith*, Gardener to James Hammond, Esq., at Potter's Bar, near Barnet, communicated "directions for forcing onions to produce bulbs in clusters, at an early season. He sows the seed in April, thickly, in a bed, and does not afterwards thin the plants which come up; this causes them to remain small; a part of them are used for pickling, and the remainder, being about the size of walnuts, are planted in January or February, pressing each onion into the earth so deep as just to cover it. As soon as the seed-stalks appear, he breaks them off, and instead of making any effort to form new ones, the onions begin to form young bulbs round the old ones. By this process onions may be obtained two or three inches in circumference, fit for the kitchen early in Spring, at a time when Spring-sown onions are not larger than quills. Onions thus thrown into clusters will be full-grown by the end of June, and fit to take up then, but they do not keep well."

Peter Rainier, Esq., Captain R. N., communicated directions for cultivating and cooking the brinjall, a variety of the common egg-plant (solanum melongena), producing dark-coloured elongated fruit, which is much used in the East Indies, especially at Bombay. It is also established as an esculent in the French gardens, under the name of aubergine. Captain Rainier grows the plants in a frame placed upon a dung-bed. The seeds are sown in February; each plant yields from six to ten fruits. They are very generally used in the East Indies in curries, and made-dishes; but the usual and best mode of dressing them is, first to parboil them, and then, dividing them lengthwise, to score them across and across with a knife, to dress them with butter, pepper, and salt, and then to broil them on a gridiron. Captain Rainier uses the medlar as a stock for pears.

Mr. John Bowers, Gardener to the Lord Selsey, at West Dean House, in Sussex, destroys the bug and scale on pine-apple plants by a wash consisting of three gallons of rain water, two pounds of soft soap, eight ounces of black sulphur, (sulphur vivum,) and two ounces of camphor, boiled together for an hour, and to which is then added three ounces of turpentine. He turns out his plants, divests the roots of their fibres, and immerses them in a trough nearly filled with the liquid at a temperature of from 120° to 136°, for about five minutes. Queen and sugar-loaf pines he finds require the highest heat stated: Antiguas and others need not have it above 124°; but those to which a lower temperature is used must remain double the time immersed. When taken out of the liquor they are well drained, and set on the flue of the house with the roots downwards, until they become dry; they are then put into small-sized pots, and plunged in fresh tan, with a good bottom heat kept up by dung linings. They are shaded from the sun in the heat of the day, and a little air given until they begin to grow, which will be in about three weeks from the time they are potted. The above operation may be performed between the months of February and September.

Mr. John Breese, Gardener to Sir Thomas Neave, Bart. at Dagnam Park, Essex, grows pines on boards placed over a pit filled with rank dung, covered with six inches of old rotten dung.

Mr. William Ross, of Stoke Newington, had a plant of the black Damascus grape, the blossoms of which, every gardener knows, do not set well, either in the hot-house, nursery, or in the open air. Mr. Ross had a plant on the open wall, which for many years had invariably failed to set its fruit. A royal muscadine grew near it. At the pruning and training season the branches of the two vines were intermixed, and in the blooming season their racemes coming almost in contact with each other, produced the desired effect; while a part of the vine trained by itself produced defective branches as before. Mr. Ross had been in the habit of fecundating the black Damascus by suspending over the blossoms, when fully open, bunches of the flowers of other sorts then in the same state. These were shaken occasionally to disperse the pollen.

John Williams, Esq., of Pitmaston, near Worcester, cultivates strawberries on small ridges of earth running north and south, about nine inches above the level of the ground, planting the strawberries on the top, and laying plain tiles on each side of the ridge. He finds the produce earlier, more abundant, and better flavoured, than on plants grown on the flat ground. The flat tiles retain the moisture, promote the ripening of the fruit, and keep it free from dirt after heavy showers of rain.

Art. II. *Verhandlungen des Vereins, &c. Transactions of the Prussian Gardening Society, &c.* Vol. I. Continued from p. 189.

The 26th Article of these Transactions is entitled, *General Remarks on British Parks and Gardens.* Extracted from the Journal of Mr. Lenné, Royal Garden Engineer at Potsdam.

Mr. Lenné is a young man belonging to a family on the banks of the Rhine, who have been gardeners for upwards of two centuries. Having received a very competent education at home, he was sent to Paris, and placed under the late Mr. Thouin, in the Jardin des Plantes; he next went to Sicily to teach the culture of asparagus and make various improvements in the garden of a German officer, who had married a rich Sicilian heiress. After remaining there two years, he came to Naples, and spent some time with his three countrymen, gardeners, at the botanic garden in the city, the Royal garden at Portici, and the English garden at Caserta. In returning to Germany, he passed some months with Signor Vilaresi, at Monza near Milan. All the principal gardens in Germany he had visited before he left that country. In 1823 he came to England, and remained in this country for two or three months. Having during that period had frequent occasion to see Mr. L., we found him one of the most intelligent of the various young German gardeners who have visited England since the peace. At the same time it is proper to remark, that his stay was too short, his knowledge of the language too imperfect, and his travels in the interior of the country too limited, to enable him to form a just notion of the English mode of laying out grounds. His remarks, therefore, as an artist, may be considered of less interest than as those of a general observer and a foreigner. Clermont, Ashridge, Stowe, Woburn Abbey, and Eaton Hall, he believes to be the first residences in England. We subjoin his description of the latter residence.

"One of the most interesting instances of what wealth and taste turned to a particular object can produce, may be seen at Eaton Hall, the seat of the Earl of Grosvenor, about three miles from Chester. With a view of rendering the journey agreeable, and in order to be, as it were, equally at home at Chester and Eaton Hall, he has purchased most of the land situated between those two places, and connected them by turning the whole into park scenery as far as the gates of the town. The entrance to the park is through a splendid iron-gate in the Gothic style; the impression produced by it, and by the neat lodge, give a foretaste of what is to follow. A fine even approach winds in majestic curves through broad glades of turf, bounded by thick plantations, which sometimes almost touch the road, and at others withdraw far from it, forming a great variety of bays and sinuosities. Here and there single trees and small groups enhance the beauty of the way. The ground rises gradually, the light groups now become more open, and to the left are discovered most beautiful meadow-grounds, watered by a small stream; to the right this fertile plain is broken by various hills covered with underwood. As we advance, the elevation and variety of the ground is increased; various points of view direct the attention to the surrounding scenery, which now becomes more interesting at every step. We see towards the north the town of Chester, with its ancient walls of red sand-stone; towards the west we behold a richly cultivated country, with hills projecting from the higher mountains of Wales, which themselves rear their heads above them, and in grotesque forms close the horizon. The country has a truly imposing character. Under similar, but varied points of view, we proceed on the grand approach, till we arrive at a cross-road connecting the surrounding villages. This road divides the park in two parts; but far from injuring the general effect, it has been sunk into an artificial rocky dell, to a depth of twenty feet, over which the approach passes on a natural-like vault of rock-work. The sides of this glen are inaccessible, and the view of it from the approach forms an interesting feature in the landscape.

An open Gothic portal, highly enriched, now surprises the view of the stranger, and prepares him for the vicinity and splendour of the house. The park here displays a more ornamented appearance; the lawns are more extensive, and more neatly kept; the plantations are more select, and secured by iron fencing against the depredations of the deer. At last we discover, through a dark mass of wood, the house itself, in a style of splendour and grandeur truly royal, and such as one would feel almost inclined to call too arrogant for a private individual (und man für einen privatmann fast zu übermüthig nennen möchte). The palace is built in the Gothic style, and all that wealth and art can produce, is displayed in its exterior, and still more in its interior."

Mr. Lenné suggests that the royal residences round Berlin, and especially those at Potsdam, might be united with the capital something in the same way that Eaton Hall is with Chester.

As a native of the banks of the Rhine, he feels the want of those vineyards and orchards which abound in his country; but above all things, he cannot reconcile himself to the extent of our parks, kept up "for the nourishment of game instead of human beings." He is particularly shocked at the parks of Blenheim, Woburn, and Ashridge, in each of which, he says, there are from two thousand to three thousand head of deer. This "arrogance, extravagance, and egotism" of the English, he "would be sorry to see imitated in Germany, farther than in a very slight degree." He is convinced that if Kent had been employed by German princes, instead of English lords, he would have introduced the orchards which he, Mr. Lenné, finds contrast so much better with cultivated fields than park scenery. He hopes to give an example of this mixed style of fruit and forest trees, in the neighbourhood of Berlin.

The English style of landscape-gardening which prevailed in the time of Kent, he considers as having degenerated into a *little* manner; and as examples of this, he refers to Cashiobury and Bretton Hall. We see from this, and other parts of Mr. Lenné's paper, that he has not clear ideas of what English gardening is, or ought to be. The littlenesses he alludes to at the above places are the flower-gardens, which form a description of scenery altogether apart from landscape. A foreigner, to become acquainted with our gardening, would require to remain some years in the country, and to make himself master of the language.

"The reason why English gentlemen are so fond of their country-seats, is owing to the foggy atmosphere of London, and the smoke of sea-coal." The public parks of the metropolis he considers every way inferior to those on the continent, and seemingly much more intended for the grazing of cattle than for the enjoyment of man. He justly observes, that the public walks of the continental towns, such as the Tuilerie-garden of Paris, the Prater of Vienna, and the Thiergarten at Berlin, have decided advantages over those of London. "To enjoy the latter it is necessary to be a man of fortune, and take exercise on horseback or in a carriage, for, excepting in St. James's Park and Kensington-gardens, there is neither a seat nor a shelter for the pedestrian." The Regent's Park he describes as particularly deficient in these respects, and observes that in the distant parts of it there ought not only to be seats, arbours, and bowers of shelter, but places of refreshment and amusement. He notices the trifold fence of the circus at the end of Regent's Street, and the double fences and locked gates of most of the squares, as truly English. These things, he says, made him reflect on the liberality of his king, and other German princes, who generously throw open their gardens to the public at every hour of the day; "and often," he adds, "when viewing them, I thought of the gardens of Potsdam, so richly ornamented; open at all times to all manner of persons; and the perfect preservation of which, shows that the people properly appreciate the favour of their monarch." The royal gardens of Kew and Windsor he does not estimate highly; though he mistakes the object of Sir William Chambers in laying out the pleasure-grounds at Kew, which was that of making the most of a dull and limited space, without reference to the external views. This could be done no otherwise than by the frequent introduction of buildings, and the judicious disposition of exotic trees and shrubs. To have moved earth, or introduced water, would have done more; but at an expence deemed too great for royalty. Mr. L. falls into the usual mistake of strangers, and of one or two of us at home, in considering the collection of plants in the botanic garden at Kew as the first in Europe. It was once so, but now there are more complete collections in some of the London nurseries; *e.g.* at Messrs. Loddiges at Hackney; not to mention the gardens of Liverpool, Edinburgh, and Glasgow.

(*To be continued.*)

Art. II. *Catalogue of Works on Gardening, Agriculture, Botany, &c. published since November last, with some Account of those considered the most interesting.*

British.

Transactions of the Horticultural Society of London. Vol. vi. part iii. London, 4to. 3 plates.

This part contains eighteen papers; two of the plates are figures of chrysanthemums, and the third of "Wilmot's superb" strawberry. Three of the papers are by the president; two by the secretary; two by the garden secretary; one by a clerk in the garden; one by the head gardener; two are anonymous reports, on the experiments carried on in the garden of the Society; and one, notices of fruits exhibited at the Society's meetings. Of the remaining five papers; one is by Dr. Van Mons of Brussels; two by gardeners in place in England; and two by gardeners in place in Scotland. Along with this publication is distributed a paper of "Regulations observed by the Garden Committee in the distribution of articles from the garden."

The essence of all these papers may be comprised in about a dozen of our pages, and will be found in a future number.

Horticultural Society of London. Report of the Garden Committee on the Formation and Progress of the Garden; drawn up for the Information of the Fellows of the Society, as directed by the Bye-Laws. March 31st, 1826. London, 4to. 29 pp. 1 pl.

This report is only delivered to such Fellows of the Society as have subscribed to the garden; other members or the public may purchase it at *5s.* a copy.

The Garden Committee have the satisfaction to state that the various departments of the Garden exhibit every appearance of improvement and advancement. "Though many walls and buildings remain to be executed, the ground-works are so far perfected, that the arrangements and divisions are sufficiently obvious to exhibit to an observer the design of those to whom the first formation of the plan was entrusted. The deviations from that plan have been so trifling that the original may be considered as remaining unaltered, and the Committee have again to repeat, what they have once before observed, that if the plan of the garden were again to be arranged, the present would probably be adopted by all who are acquainted with its details. The object of the establishment has always been, and it is hoped will continue to be, general public utility; private benefit and gratification, except as far as may be compatible with general good, being of secondary consideration. The entire garden must be viewed as created for the illustration of all objects connected with gardening, and as intended to fulfil the purposes of the original institution of the Society, pointed out in its charter, '*the improvement of horticulture in all its branches, ornamental as well as useful.*'"

By this test we shall examine the plan of the garden in our next number.

Reports on the following points are in preparation:

1. The results of observations and experiments of a general nature, made in the garden.

2. Notices of the new and remarkable fruits which have ripened in the garden.

3. Similar notices on the new and remarkable esculents which have been raised in the garden.

4. Accounts of new and remarkable plants which have flowered in the garden.

The Catalogue of the fruit department will be ready for publication early in the Summer.

The collection of fruit trees of all kinds has perhaps never been equalled, and that of trees and shrubs is now scarcely inferior, except in age, to any in Europe.

The collection of esculent vegetables is continually in the course of improvement. The chief objects of the Society are to simplify the nomenclature, and point out the most useful of the articles.

The number of smaller hardy ornamental plants, with the exception of bulbs, is not very large at present. It has never been intended to make the collection of herbaceous plants and annuals general; but to confine it to those which are strictly ornamental, and consequently suited to a garden. A botanical collection of plants has never been contemplated.

The plants under glass are almost entirely confined to those of ornament, and of known or expected utility.

The progress made in the Arboretum is explained by a plan of the ground. This subject we leave till our next Number.

"The Committee have to report that the garden has received some very important acquisitions by the mission which has just terminated, of Mr. James M'Rae, to the islands in the Pacific Ocean, and to various parts of the south-western side of South America. Very material additions have also been made to the garden by the liberality of Messrs. Baumann of Bolwiller, Messrs. Audibert of Tarascon, Messrs. Landreth of Philadelphia, and Mr. Floy of New York. Many objects of interest have also been acquired by the liberality of the nurserymen of England and Scotland.

"The advanced state of several departments of the garden enables the Committee to state that the supplies of fruits, flowers, and esculent vegetables for exhibition at the Meetings of the Society will in future be more abundant and varied than they have hitherto been. Of such fruits and esculent vegetables as may remain after this necessary general application of the produce, the Council have it in contemplation to make arrangements for the sale at a reasonable price, to Fellows of the Society, who may be disposed to avail themselves of such privilege."

"The donations from the garden have been very considerable: in the first place, in the supply of plants and seeds to our own colonies, and to foreign countries generally, whenever it could be ascertained that they were likely to be useful; and in the second place, to the public gardens of the United Kingdom. Extensive supplies of the more useful objects of cultivation have been sent to the house of the Society, for the use of the Fellows generally. With regard to particular distributions to members of the Society by the Committee, this has also been carried as far as has been consistent with the orders of the Council, "not to interfere with the interests of nurserymen." In making these distributions the Committee have necessarily kept in view the degree of right which the various applicants have possessed; and they have considered that members of the Society who are claimants upon the garden are of two kinds. The *First Class* consists of those who, by donations to the formation of the garden, and by annually contributing to its support (compounded for or paid yearly), or by a payment amounting to 20*l*. or upwards (which is considered equivalent to both), possess as it were a double right, and these therefore have the strongest claim upon the attention of the Committee.

The *Second Class* consists of those members who have only a single right, in consequence of either contributing to the garden one guinea annually (or compounding for such payment), or by subscribing to the formation of the garden any sum less than 20*l.* These stand in the second rank of claimants. Contributors of plants, seeds, &c. if they are not subscribers, are considered to possess claims in proportion to the value of their contributions, &c.

The garden has been visited by 4706 persons between the 1st of April 1825, and the 31st of March 1826 inclusive, being an increase of 784 over the numbers registered in the preceding year. Strangers who have not access to subscribers are furnished with tickets to see the garden by applying to the Society's house in Regent Street.

One of the most important advantages which is accruing to the public from the garden, is the education of young men to fill the places of gardeners. Several instances have occurred of young foreigners of respectability being sent to the garden for the purpose of receiving an horticultural education. The arrangements which have been made for the control and management of the labourers, (that is, of the "young men" who are being educated), both during their presence in the garden, and at their hours of leisure, have been attended with the happiest effects. Since the establishment of the garden only nine have been dismissed for misconduct, violation of rules, or unfitness, and twenty-four have been recommended to places. Thirty-six remain on the establishment.

"The list of subscribers to the formation since the last Report of the Committee will be found in Appendix, No. V.; the amount of subscriptions notified within the year being 411*l.* 5*s.* 0*d.* It is a matter of regret to the Committee that this list should be found so inconsiderable: the whole sum subscribed by members of the Society amounts, at the date of this report, to 6784*l.* 17*s.* 0*d.* of which 662*l.* 5*s.* 0*d.* remains unpaid. The falling off in the contribution of members of the society from what was originally anticipated has necessarily compelled the Council to suspend the execution of many most important works.

In annual subscriptions an increase has taken place during the last year, by the election of new Fellows.

The Committee hoped to have been able to announce in this Report that a considerable sum had been placed at their disposal for the purpose of completing the plan for the formation of the Garden. Circumstances, however, having caused a delay in this advance, the Council has found it necessary to raise a loan of 3000*l.*

Appendix, No. I. contains references to the plan of the Arboretum.

Appendix, No. II. contains six rules and twelve regulations for the distribution of articles from the garden; to commence and be attended to, from and after the 31st of March 1825.

Appendix, No. III. contains six rules and nine regulations for the exhibition of the garden, to commence and be attended to from and after the 1st of May, 1825.

Appendix, No. IV. contains seventeen regulations for the admission, &c. of labourers into the garden of the Horticultural Society at Chiswick. Ordered by the Council, April 28th, 1825.

We print them entire for the benefit of gardeners who may be desirous of applying for admission.

1. Any person desirous of being received into the garden for the purposes of instruction and improvement in horticulture, must be recommended by a member subscribing to the garden, either annually or otherwise, in a letter addressed to the secretary, stating the names at length of the person recommended.

2. Candidates for admission must be between the ages of 18 and 26:

they must have been educated as gardeners, be unmarried, and capable of reading and writing moderately well.

3. After receiving the recommendation, the secretary will transmit to the person recommending the candidate a copy of these rules, in order that they may be forwarded to him: the candidate will then, in a letter, written by himself, acknowledge the receipt of it; and will state his age, his present engagements, the time when he desires to be admitted, and the address under which communications are to be made to him. He will likewise state in what occupations, and where he has been employed, since the age of 14.

4. The candidate will, in reply, be informed whether his answer is satisfactory or not. If the former, his name will be entered on the list for engagement.

5. On the occurrence of a vacancy, the candidate who shall be then selected for engagement will be informed thereof, and directed to go to the garden at Chiswick, for the purpose of being engaged.

6. Previously to his being engaged, he must produce to the gardener testimonials of his character, of his past good conduct and ability; and if these shall be satisfactory to the gardener, he will be engaged.

7. After his admission, if at the expiration of one month the gardener shall report him unfit for further employment, he will be dismissed.

8. Any person engaged as a labourer in the garden, who shall misconduct himself in any way, whether in or out of the garden, or who shall not implicitly conform to the orders and rules laid down for the conduct of labourers by the gardener, will be immediately discharged.

9. Each labourer on his first introduction to the garden will be placed in the lowest department, and will be advanced in succession, through the other departments, according to his ability and acquirements, without reference to the time he has been employed in the garden. No person can be admitted for the purpose of study in any *one* department only.

10. No person engaged as a labourer in the garden, will be permitted, whilst employed by the Society, to seek for any engagement or service for himself. When employment, suited to the talent or acquirements of any person employed in the garden, shall be known of, the situation will be offered to him; and if agreeable to him he will be recommended thereto. But no labourer will be recommended to any situation until he has been one year at least in the service of the Society.

11. The gardener will, at his convenience, some time in the month of October or November in each year, report to the secretary the names of all the labourers who shall have been employed in the garden six months or more, who in his opinion are not likely to attain such proficiency in the business of a gardener as shall qualify them to be recommended to the situation of a head-gardener [that is, who have not the proper bump on their heads] with credit to themselves and the Society; and such persons will be discharged in consequence.

12. The *under-gardeners* will be selected from the labourers employed in the garden, solely according to their character, conduct, ability, and acquirements, without any reference whatever to the period of their employment or their age, and they may be removed from the superintendence of one department to that of another, as may be found convenient, without any other consideration.

13. On the nomination of an under-gardener he will be considere
in a state of probation for three months: and if during, or at the expi
ation of that time, he shall be found unequal to the situation,
will then be either dismissed, or will return to his former station
labourer.

14. The under-gardeners are not permitted to seek for engagement or service for themselves. The nomination to the employment of under-gardener will be presumed to imply that they are considered likely to be recommended in due time to situations of consequence in their profession.

15. The gardener, if he shall find the conduct of any under-gardener unsatisfactory, either in the charge reposed in him, in his demeanour, or in his moral conduct, may recommend his dismissal at any period.

16. The under-gardeners who shall have conducted themselves with propriety, will be continued to be employed as such during two years from the date of the first appointment; after which time they will be recommended to such situations as may be thought likely to suit them.

17. If at any time, during the service of either a labourer, or an under-gardener, it should appear desirable from any causes, not affecting his character, either professionally or otherwise, that he should cease to remain in the service of the Society, he will be permitted to leave it on his own application, or on the report of the gardener, without being considered as in any way having violated his engagement with the Society.

Appendix, No. V. contains a list of the subscribers to the formation of the garden of the Horticultural Society at Chiswick, since April 1, 1825; in number 35, and the amount 411*l.* Total subscribed to the garden to January 1st, 1826, 6759*l.*

Appendix, No. VI. Classification of the Fellows of the Horticultural Society, according to their contribution towards the establishment and support of the garden.

The total number of Fellows on the 31st March, 1826, amounts to 1984, of whom 1214 have contributed to the garden.

A "State of the Accounts" of the Society, and of the Garden, for 1824 and 1825, is printed, and was delivered to such of the Fellows as were present at the annual election of officers, on the 1st of May last. The following are the totals:—

The Society, or office in town, received from May 1824 to May 1825 -	£7354	and paid	£7165
The Garden received from January 1824 to January 1825 - -	7326	and aid	6865
Total received by the Horticultural Society, in the year 1824-5, deducting a sum, transferred from the Society account to the Garden account, of £1300,	13680	Total paid	12700
Similar totals for the year 1825-6, are -	11209	Total paid	9785

The income of the Society from Contributions, amounted on the 1st of May 1826, to £5170; something additional is obtained by the sale of "Transactions," garden produce, and admission fees; the Society has borrowed in all, we believe, about £8000.

Donald, Robert, Nurseryman, Goldworth, near Woking, Author of "The Psalms of David on Christian Experience:" A new System of National and Practical Agriculture to relieve the Distress of every Part of the Community, by finding Employment for all Classes of Labourers; to reduce the Poor Rates; also, by a rigid Retrenchment, to lighten the enormous load of Taxation, and to make our Finances meet the Expenditure, with Hints for improving of Estates. In Rhyme. Guildford, 12mo.

It cannot be expected that Mr. Donald should be so adroit at authorship as he is at gardening; and we may here hint for his benefit, and that of other country gardeners, at the great disadvantage of not having a London publisher for their books. From neglecting this, their titles are not introduced into the regular lists of publications, and the works themselves remain unknown to the reading world. Whatever may be thought of Mr. Donald's book, there can be but one opinion as to the *bonhommie* of the author, whether that opinion be formed from the printed pages or the man.

Chandler and *Buckingham*, Nurserymen, Vauxhall, Surrey: Camellia Britanica. London, 4to. 8 Plates.

This work contains coloured engravings and descriptions of eight varieties of camellia, raised from seeds ripened in this country, and hence called British camellias. These are, C. Chandleri, 2 plates, Aitonea, Altheaflora, Corallina, Insignis, Floria, and Anemoneflora alba.

Murray, John, Esq. F.S.A., L.S., H.S., &c. Member of the Geological, Meteorological, and Wernerian Societies, &c. Remarks on the Cultivation of the Silk-worm, with additional Observations made in Italy, during the Summer of 1825. London. 8vo.

This work is at once concise, instructive, and entertaining. It formed originally an article in the Edinburgh Journal of Science, excited general interest, and seems to have led to the translation of Count Dandolo's work on the same subject. Whoever wishes to have a clear idea of the natural history of the silk-worm, and of the mode of rearing it by art, will be amply gratified by this little treatise. The author has planted several kinds of mulberries on his own property in Inverness-shire, and hopes "to present the public, by and by, with something more than theoretic detail."

Cleghorn, James, Accountant in Edinburgh, Conductor of the Farmer's Magazine: Thoughts on the Expediency of a General Provident Institution for the Benefit of the Working Classes; with Tables and Examples of Contributions and Allowances, and an Abstract of the Acts relating to the Friendly Societies and Saving Banks. Edinburgh, 8vo. 45 pages.

This interesting tract will be noticed more at length in our concluding article on Slaney's book on Rural Expenditure; in the meantime, we recommend to the philanthropic reader its perusal, and the consideration of the proposed plan.

Anon. A Treatise on Milk as an Article of the first Necessity to the Health and Comfort of the Community; a Review of the different Methods of Production, and Suggestions respecting the best Means of improving its Quality, reducing its Price, and increasing its Consumption. Lond. 8vo.

This tract is dedicated to Mr. Curwen, and professes to diffuse the practical application of that gentleman's knowledge of agriculture, as applied to soiling and stall-feeding of milch-cows. The author has collected a variety of materials from different works, in favour of the wholesomeness of milk in diet, and of the increased produce of the cow when fed on green food, or roots. The book we understand was got up with a view to the establishment of a "Cattle Green Food Association;" a scheme never matured, and which, if it had, would soon have followed the fate of the milk companies.

Curtis, John, F.L.S.: British Entomology; being Illustrations and Descriptions of the Genera of Insects found in Great Britain and Ireland, containing coloured Figures from Nature, of the most rare and beautiful Species, and in many Instances of the Plants upon which they are found. London, 8vo. In monthly numbers, Vols. 1. and 2., many coloured plates.

The author, in his prospectus to the third volume, observes, "that the original plan has been somewhat enlarged by the synoptic view that is given of each genus, which, when the work is completed, will render it the most perfect that has ever appeared in this country; and the references that are given to all the species will enable any one to study and obtain a perfect knowledge of the individuals comprised in each genus, thereby imperceptibly leading him to a knowledge of the whole system. This has greatly increased the labour of the author; but the utility is so manifest, and has been so decidedly approved, that he will submit cheerfully to the task, as often as circumstances will admit." This work is of particular interest to the gardener; and we only regret, that the price which must necessarily be charged for it, on account of the plates, will almost limit its use to their employers. We would recommend such of the latter, as wish to look on nature with the eye of a naturalist, to take it in as a rich source of gratification to themselves, and for the purpose of lending it to their discerning gardeners, in order to enable them to know better how to destroy the insects in their gardens.

Conrad Loddiges & Sons, Nurserymen, Hackney, Authors of the Botanical Cabinet: Catalogue of Plants in their Collection. London, 12mo.

This Catalogue exhibits such an assemblage of plants, as, we will venture to assert, was never before brought together by any individual, not excepting sovereigns, either in this country or abroad. The total number of species exceeds 8,000; all plants that may be purchased, and exclusive of about 2,000 varieties. In two departments, the most superficial observer will acknowledge the superiority of the Hackney garden; that of palms, and that of hardy trees and shrubs; the total number of species of the former at Hackney is 120, of the latter 2,664. There is no such collection of hardy trees and shrubs in the world; and when it is considered that they may all enter into our plantations, their value to the country is incalculable. In this department, Messrs. Loddiges have done more than all the royal and botanic gardens put together. The number of trees and shrubs in the Hackney garden, is not less remarkable than the manner in which they are arrranged, along a revolving gravel walk, by which every individual species and variety may be examined with ease, and compared with its congeners at any time of the year. A plan of this arboretum we have already given. (*Encyc. of Gard.* § 7356.)

In confirmation of these remarks, we subjoin the number of species of some of the principal genera.

TENDER EXOTICS.

Acacia	73	Erica	309
Bignonia	25	Ixia	25
Gardenia	17	Eucalyptus	31
Passiflora	33	Aloe	68
Diosma	38	Pelargonium	136

HARDY TREES AND SHRUBS.

Acer	27	Juniperus	21
Andromeda	16	Pinus	40
Azalea	19	Prunus	39
Berberis	10	Quercus	40
Betula	23	Rhododendron	14
Clematis	11	Rosa, with its varieties	1459
Cratægus	47	Salix	192
Cytisus	15	Vaccinium	35
Fraxinus	32	Ulmus	20
Ilex	8		
Juglans	14		

FRANCE.

Legris, Geometrical Engineer: La Nouvelle Méchanique Agricole, &c. Paris, 8vo. 2 plates.

This work treats of road and canal-making, draining, irrigation, quarrying, mining, &c., methodically, concisely, and correctly.

Fauré, M., Senior, Corresponding Member of the Paris Agricultural Society, &c.: Statistique Rurale et Industrielle de l'Arrondissement de Briançon, &c. Paris, 8vo.

Vergnaud, M., Senior: Mémoire sur le Marronier d'Inde. Paris, 8vo.

The author proposes to extract starch from the nuts of the horse-chestnut; to change it into sugar, and employ it in distillation; and to apply it to various other uses.

Richardot, M. Ch., Officer of Artillery: Nouveaux Appareils contre le Danger de la Foudre et le Fléau de la Grêle. Paris, 8vo.

The author proposes to substitute as conductors for the preservation of buildings from lightning, metallic plates instead of rods; but rods, he considers, may be still employed for thatched buildings. He says it has been proved, that electricity is a necessary element of hail, and also, that fields with lightning-conductors (paratonnèrres,) have been preserved from hail, while the neighbouring fields have been ravaged by the storm. "Several facts observed in the vineyards of Italy, and in the Alps, have been cited to prove the influence of the electricity of the atmosphere on the formation of hail. Recently, M. Crud of Geneva, the translator of Thaer's Agriculture, has given his opinion in favour of *paragrêles*, hail-protectors, and has placed some on his own land." A communication on this subject by M. Crud, is published in the Annals of the Paris Agricultural Society for August 1825, by which it appears that it is of no use employing paragrêles, excepting on a large scale, and that farther experiments are necessary.

Mr. Murray, the chemical lecturer, in an appendix to his "Remarks on the Silk-worm," says, "I am of opinion, that the paragrêles so universally adopted in the Canton de Vaud, must very much modify the phenomena of the hail-storms, so prevalent along the chain of Alps, and so frequently and so extensively mischievous to the vine and Indian corn. I shall elsewhere discuss the question at some length; meantime, I may state, that I every where received assurances of conviction in their protecting power in those localities where they had been introduced; and may only repeat here what I did to Professor Chavannes, the discoverer, my firm conviction that the principles on which they are constructed are strictly just and scientific; that they must form a protection, and finally triumph over all prejudice and ignorance, together with the attacks by which they have been assailed." (p. 22.) The notions of Mr. Williams on the subject of establishing electrical conductors in the fields in this country, may, perhaps, be recollected by some of our readers, and with less prejudice against them, than was excited by their first proposal. Possibly we may in time be able to produce effects on the atmosphere, analogous to those of draining, irrigation, and shelter, on the soil!

Dubrunfaut, M. L'Art de fabriquer le Sucre de Betteraves. Paris, 8vo.

M. D. is of opinion, that even in a time of peace like the present, under favourable circumstances of soil, situation, &c. this manufacture may be carried on in France with a profit; in which, however, he differs from the Comte Chaptal, as expressed in the introduction to his Industrie Françoise.

Decandolle, M. Aug. Pyr., of Geneva, the celebrated botanist, member of many societies, and author of numerous works: Mémoires sur la Famille des Legumineuses. Paris, 4to. Parts 1 to 5 are published.

Part 1st describes the organization of the plants belonging to this family; the second and subsequent ones are to contain the description of the genera and species, with some incidental remarks on their culture and uses in the arts.

Jaume Saint-Hilaire, M., with an Introduction, by the late Professor Thouin; Traité des Arbrisseaux et des Arbustes cultivés en France et en pleine Terre. Paris, 4to and 8vo. Many plates, coloured. Published in parts, of which 22 have appeared.

Pirolle, M. Amateur Cultivateur: L'Horticulteur Français, ou le Jardinier Amateur; Traité complet, théorique et pratique, du Jardinage, divisé en huit Livres. Paris, 12mo.

Poiteau, A. and *P. Turpin*: Traité des Arbres Fruitiers, par Duhamel du Monceau; nouv. édit., augmentée d'un grand Nombre de Fruits, les uns échappés aux Recherches de Duhamel, les autres obtenus depuis des Progrès de la Culture. Paris, fol., 31 parts. Coloured plates.

Brayer, M. J.R.L. Statistique du Départment de l'Aisne. Laon, 4to.

Bornholz, M. Alex. de, translated from the German, by M. Mich. Egger: De la Culture des Truffes, ou Maniere d'obtenir, par des plantes artificiels, des Truffes, noires et blanches, dans les Bois, les Bosquets, et les Jardins. Paris, 8vo.

The truffle, the author regards as superior to all other fungi as an esculent; according to him, it is a production both of an animal and vegetable nature; not propagated by seed, but generated in a manner peculiar to itself, under layers of earth, peculiarly situated, in the same way as certain worms are formed in the flesh of animals. Hence the manner of propagating the truffle is not the same as that of propagating the mushroom. Finding the truffle most commonly in grounds where there were oak trees, he recommends a soil composed chiefly of rotten oak leaves and bark, into which he proposes to plant the truffle from its native habitation, and leave it to encrease by those sort of offsets, which, he says, it produces when full grown. He proposes to establish truffle-grounds in the glades of park and pleasure-ground scenery, guarding them from such animals as the hog, stag, fox, squirrel, &c. which search for and devour them; and destroying, as far as possible, worms, snails, beetles, and other insects which live upon them.

Five species are described, all growing most frequently in thin oak woods; sometimes in mixed woods of deciduous trees, but never under evergreens, especially the pine and fir tribe. As far as our own observation has gone, the truffle is most frequent in England in scattered beech-woods; but it is also met with in abundance in open commons, where there are no ligneous plants, excepting furze. Three species are natives of Britain, and as they grow wholly under the surface of the ground, they are discovered by watching where hogs dig for them, and by small dogs trained on purpose to scent them.

Martin, J. Père, proprietor, and *Alexander Martin*, Fils, Apothecary in Paris. Traité sur les Ruches a l'Air Libre, &c. Paris, 8vo.

The French critics say this work contains a great many new facts, and some ingenious speculations, deserving the attention of the cultivator.

Bonafous, M. Mémoire sur l'Education de vers à Soi, ou Journal d'une Magnanerie. Paris, 8vo.

Sénac, M. Bulletin des Sciences Agricoles et Economiques. Paris, 8vo. in monthly numbers. Nos. 1, 2, 3, and 4, for January, February, March, and April, 1826.

This is one of the most comprehensive works of the kind ever undertaken in any country. It embraces publications on rural subjects, in all languages; some original papers, and accounts of the sittings of the Agricultural, Linnean, and other societies of Paris, with the premiums proposed by them. We have extracted from it, and shall continue to do so, whatever we consider interesting to our readers.

Jaume Saint-Hilaire, M., Mémoire sur les indigofères de Bengale, et de la Chine, ou Histoire et Déscription de quelques Végétaux peu connus, et dont les Feuilles donnent un très-bel Indigo. Paris, 8vo. 5 plates.

Boitard, M. Traité de la Composition et de l'Ornement des Jardins, avec 96 planches, representant des Plantes de Jardins, des Fabriques propres à leur Décoration, et des Machines pour élêver les Eaux. Ouvrage faisant suite à l'Almanach du Bon Jardinier. Paris, small 4to. 97 plates. 3d edit.

This work will come under review in next number, along with the Bon Jardinier.

GERMANY.

Hazzi, M. de, Councillor of State: Gekroente Preisschrift ueber Gueter-Arrondirung, &c, or, Prize Essay on the Union of detached Territorial Property, written for the Agricultural Society of Bavaria. Munich, 8vo.

The inconveniences attending the cultivation of scattered portions of land are pointed out, such as those of the carriage of the crop and manure, the loss of time in going and returning, &c. The remedy for these evils is obvious, but so extremely difficult to put in practice, that the author despairs of ever seeing it generally adopted in any country.

Shnée, Pastor at Schartau: Handbuch für Engehende Hausmütter, &c., or Manual for Young Housekeepers. Halle, 8vo.

Borchmeyer: Deutschlands Baumzucht, &c. or, the Description and Culture of all the Forest Trees grown in Germany. Munster, 8vo.

Pfeil, Dr.: Kritische Blaetter für Forst-und Jagdwissenschaft, &c. Critical Journal of Forest Culture and Game. Berlin, 2 vols. 8vo.

Niemann, Professor. Vaterlændische Waldberichte, &c. Information on the Culture of Forests, &c. Altona, 8vo.

Bernhardi et Völker: Deutschen Garten Magazin. Weimar, vol. 1. part iv. 4to. Coloured plates.

This magazine has hitherto been filled with translations; the present part is chiefly indebted to Mr. Lindley's Collectanea Botanica, the Horticultural Transactions, and the Memoirs of the Caledonian Horticultural Society. The plates are coloured figures of plants from the works mentioned, and from the Botanical Register.

Voigt: Ueber die Aufbewahrung des Getreides, &c. On the Preservation of Grain. Lipsic, 8vo. 3 plates.

Sprengel, Curt. Professor of Botany at Halle: Systema Vegetabilium, vol. 5, 8vo.

Müller, D. E. Ueber den Afterraupenfrass in den Frænkischen Kieferwaldungen; or, Ravages committed by the Caterpillars, of different Species of Tenthredo, in the Pine Forests of Franconia, &c. Aschaffenbourg, 8vo. 7 plates.

During 1819 and 1821, several thousands of acres of pines were entirely destroyed by T. pini, pinastri, juniperi, and erythrocephala. The production of these insects is favoured by heat and drought; a female lays 100 eggs at one time; the natural checks to their progress are, some other insects, most birds, the mouse, the squirrel, the wild hog, fox, &c. The power of man to check them on a large scale is so very limited that the author does not propose to call it into action.

Kasthofer, C. Bemerkungen auf Einer Alpenreise, &c. Berne, 8vo.

This work consists of observations made during excursions in the Alps, some of which are interesting, as they respect the Swiss dairies. These are constructed in places abounding with spring-water, and banks are formed in them, in which the vessels float that contain the milk. In this situation the milk remains five days; it is then creamed, and the curd pressed till it is completely dry. Next it is reduced to powder, and mixed with a certain quantity of salt, and the powdered leaves of Trifolium melilotus cærulea. After this the mass is put into form, and being powerfully pressed, is the celebrated Gruyère cheese.

Verhandlungen des Vereins zur Beförderung des Gartenbaues, &c. or, Transactions of the Prussian Gardening Society. Parts 3 and 4, 4to. 9 plates.

A considerable part of these transactions consists of papers on landscape gardening, to which most of the plates are illustrations. Their author is Mr. Lenné, already noticed (p. 318.) as having published his observations on the gardening of this country. We shall, in succeeding numbers, select what we consider most interesting.

ITALY.

Tartini Salvatici, Ferd. Dell' Utilita di estendere all' Estero il Commercio dei Vini Toscani. Florence, 8vo.

Fornaini, D. Ant. Saggio sopra l'Utilita di ben conservare e preservare le Foreste. Florence, 8vo.

Anon. Principi Pratici di Agricoltura e di Economia Rurale. Milan, 12mo.

De Chabrol De Volvic, Comte de, Councillor of State, and Prefect of the Seine. Statistique des Provinces de Savone, d'Oneille, d'Acqui, et de partie de la Provence de Mondovi, formant l'ancien Département de Montenotte. Paris, 2 vols. 4to. plates.

This book is said, by the French critics, to be a model of its kind. The gardens of Savonna and Port Maurice, we are informed, are surrounded by high walls, and the principal fruit-trees are apricots, peaches, and lemons. Round Acqui and Céva the gardens are inclosed by hedges. Five thousand oranges have been gathered from one tree at Savonna. Garden bulbs, chiefly narcissi, but also ranunculi, anemonies, tuberoses, and hyacinths, and some garden seeds, form articles of exportation, to the extent of 9 or 10,000 francs per annum. The chardoon attains a large size, frequently weighing from 18 to 25lbs., and still very delicate and tender. In the cantons of Noli, the olive plantations are the most extensive in the north of Italy. Three varieties are cultivated; they are raised from suckers, nursed three years, and planted out the fourth year. The sixth year they produce some fruit, and in the eighteenth they are in full bearing. Nearly the same progress, it is observed, takes place with the apple-trees in Normandy, which are also raised from suckers; the parent trees being there, as they are also in many parts of Germany, ungrafted apple-seedlings. No tree is more liable to be injured by the wind than the olive, for which reason it is generally planted in sheltered places; and, indeed, it will not thrive on elevated sites, or far from the sea. The walnut is not much cultivated; but, next to the orange and the olive, is the carob, Ceratonia siliqua, which is given to horses, mules, oxen, sheep, and swine. Sweet chesnuts are abundant, and form a principal source of nourishment for the mountain population. They eat them either with milk or water, fresh in Autumn, or kiln-dried in Winter and Spring. The author says, there are between 50 and 60 varieties of this fruit. The mulberry is extensively cultivated for the silk-worm. The vine is but partially cultivated, and the wine produced is not good, because it is made from different sorts of grapes, which, of course, cannot be all equally ripe at the same time. The arable land is not extensive, and not very well cultivated. Maize yields eighty for one; artificial pastures are unknown. The reed is cultivated to be used as laths for vaulted ceilings, as fences, hurdles for drying figs and other fruits, and for rearing silk-worms.

SPAIN.

Da Corse Veillose, Joseph, Marquis of, L'Alographia dos Alkalis Fixos. Lisbon 8vo.

In an article in this work on the common sunflower, Helianthus annuus, we are informed that in Portugal the young side shoots are eaten seasoned with oil and salt; bread is made of the seeds, and also a sort of groats; that a useful and edible oil may be expressed from them, and that they are good for fattening poultry. The leaves of the plant form an excellent forage, especially for cows and sheep. The stems will do for props for twining or climbing plants; afterwards they make good fuel, and their ashes afford potash. In some parts of America they roast the seeds, and use them as coffee.

SWEDEN.

Fries Elias. Plantæ homonemeæ; etiam sub titulo, Systema Orbis Vegetabilis. Lund. 8vo.

PART III.

MISCELLANEOUS INTELLIGENCE.

ART. I. — *Foreign Notices.*

FRANCE.

GERMINATION of Seeds. The presence of oxygen gas being the principal requisite for germination, and chlorine the most powerful agent for developing this gas, it has been found that healthy seeds steeped in the chloric fluid are accelerated in their germination, and that others that appeared to have lost their faculty of germination have recovered it by the same process. (*Humboldt.*)

Forcing Cherries in the Sixteenth Century. At Poitou, in France, the ripening of cherries was accelerated by laying hot lime-stones on the ground under the trees, or by watering the ground with hot water. By these means ripe fruit was obtained on the first of May, and sent to Paris by post. In the following century peas were sown in boxes kept in the gardener's room in the night-time, and in cold weather, and set out in sunshine. They came to maturity about the same time as the cherries; and, in a letter dated the 10th of May, 1796, Madam Maintenon speaks of new peas as a rarity which had been the principal talk at court for four successive days. (*Essay, &c., in Oliv. de Serres, edit.* 1804.)

Grafting. M. Louis Noisette has published the description of 137 modes of grafting. Most of them are the invention of the late Professor Thouin, and described by him in the Annales du Musée Française, as well as exemplified in the Jardin des Plantes.

Bees. Where the buck-wheat, or, more properly, beech-wheat, Polygonum fagopyrum, is extensively cultivated, there bees collect beautiful wax and bad honey; where the saintfoin abounds, there the honey is delicious, but the wax is very difficult to bleach. (*Ann. de l'Agric. Franc.* t. 81.)

Employment of Bones as Manure. The Chevalier Masclet has addressed a letter to M. Matthieu de Dombasle on this subject, stating how much he was struck with the advantages of manuring with bones, in a tour he lately made in Scotland. He found them equally effective on sandy and clayey soils, and that their benefit was felt for thirty years. On humid and calcareous soils they are of little use; but on grass-lands they are very beneficial. (*Annal de l'Agric. Franc. Nov.* 1825.)

Influence of Salt on Vegetation. The inhabitants of Camargne in Languedoc have such a dread of the corrosive action of salt on wheat in a dry season, that always when they sow that grain, they sow along with it Salsola sativa; so that if the former is destroyed by the drought, the latter, which requires a saline soil, prospers, and forms the main crop. In good seasons the wheat prospers, and suffocates the salsola. When the latter plant is the main crop, it is burnt for soda. (*Yvart.*)

Box-tree as Manure. Olivier de Serres recommends the branches and leaves of this shrub, as by far the best manure for the grape, not only because it is very common in the south of France, but because there is no plant that, by its decomposition, affords such a great quantity of vegetable mould.

A Canal-digging Machine, to be moved either by manual labour or machinery, has recently been constructed at Paris. In soil where it is uninterrupted by rocks or stones, it is said to perform its work with great rapidity, delivering the earth into carts, or wheelbarrows, brought alongside of the excavation.

GERMANY.

Naturalization of Plants. A German author, J. Ch. Lewchs, has lately published a book, in which are some useful remarks on this subject. His work is divided into three parts. 1st. Observations on the climate and soil of Germany, and those of other countries: 2d. Principles of guidance in choosing plants for acclimating: and, 3d. Processes for that purpose.

In choosing plants to acclimate, it is necessary to attend first to their organization; annual plants which terminate their development in a part of the year, are easier acclimated than perennials. Plants which abound in sap, have a spongy porous wood, and much pith, succeed with difficulty. In applying these principles, the author lays it down as a rule, that instead of endeavouring to give to foreign plants their ancient climate, we ought to apply ourselves to make them forget it. He recommends to begin by hardening the seed, and for that purpose to put it in the ground before Winter; to shorten the period of vegetation by increasing the temperature; to diminish the nourishment, but increase its irritation, by employing stimulating saline manures, camphor, &c.; to stop the growth in Autumn, by surrounding the plant with cold; to hinder it from shooting too freely in Spring, by keeping it dry, so as to diminish the quantity of moisture absorbed by the roots, &c.

Means of rendering Pomology more flourishing. The Pomological Society at Guben in Lusatia, having been consulted on this subject, recommended the adoption of the following measures. 1. Instruct youth in the cultivation of fruit-trees: 2. Instruct also ministers and schoolmasters: 3. Oblige ministers and schoolmasters to acquire information on the subject: 4. Render ministers and schoolmasters responsible for public ordinances relative to the culture of fruit-trees: 5. Establish branch Pomological Societies: 6. Establish a nursery and an orchard for the principal society: 7. Plant fruit trees in the public places of villages, and along the high roads: 8. Let every parish (commune) be responsible for fruit-trees planted in public places: 9. Appoint public watchmen for fruit-trees: 10. Increase the penalties for injuring fruit-trees: 11. Prohibit the destruction of small birds, which are necessary for the destruction of caterpillars; but the sparrow is to be excepted, because it attacks both birds and fruits, and only eats caterpillars when it cannot get any thing else: 12. Establish public officers to superintend the execution of pomological laws, and judge petty offenders: 13. Name an inspector-general for pomological plantations for each province. Such is the ardour for encouraging the growth of fruit-trees on the banks of the Rhine.

New Varieties of Fruits. In the Memoirs of the Pomological Society of Altenbourg, (vol. i.) is a paper by that indefatigable fruit-cultivator, M. Hempel, on the experiments which ought to be made for establishing the influence that climate and soil have in the creation of new kinds of fruits. The processes recommended by Mr. Hempel consist in sowing the seeds of one sort in pots, and raising and growing them in hot-beds of different temperatures till they have ripened their fruit.

Pea Husks. In a German publication it is stated, that these, when green, if boiled in water, with a little sage, or a few hops added, and the whole afterwards fermented, will produce a liquor not inferior to beer.

Timothy Grass. The culture of this dirty grass has been tried in Bavaria, and was found so superior to the old grasses, that horses, cattle, sheep, and even swine, greedily sought it out whether dry or green, on account of its agreeable taste. Horses fattened on the flower-stems, which were three or four feet long; and long-woolled sheep got fat on it in moist lands, where they would otherwise have taken the rot. — (*Agr. Journ. of Bavaria*; *15th year.*)

Tatarian Buck-Wheat. This species, Polygonum Tataricum, is said to be of much more luxuriant growth than the common sort, fagopyrum; it is, therefore, strongly recommended as preferable to it, especially where the plant is grown to be ploughed in as manure.

Advantages of pruning Fruit-trees in Summer. The removal of shoots and leaves at this season, according to M. Hempel, removes also a number of caterpillars and eggs of insects, consequently the birds devour a greater portion of what remains. — (*Ann. Pomolog. d' Altenb.* 1824.) We may add, that wounds heal more quickly in the summer season, and that the cherry is apt to exude gum when pruned at any other period of the year. Summer pruning, however, in many cases, is attended with inconvenience.

SWITZERLAND.

Paragrêles; Thunder and Hail Protectors in Savoy. By order of the Sardinian government, the Royal Society of Agriculture of Turin appointed a commission to enquire into every thing which had been written or done on the subject of these machines. The following is the result of some trials in Savoy. 1467 paragrêles were placed in the neighbourhood of Chambery, on a chain of mountains, from their base to their summits. On the 5th of August 1825, a violent storm took place, which extended beyond the district planted with paragrêles, but which was unattended by hail within that district; but without it, both hail and thunder were abundant. On the 11th of November following, in which hail fell both within and without the district protected, a proprietor who had only four paragrêles, each twenty-two feet high, saved his lands from a violent storm, which fell on those of his neighbours.

ITALY.

Power of Vegetable Life. A branch of the Cotyledon coccinea was presented by Professor Gazzari to the Accademi di Geofiles, in Jan. 1824. Although it had been separated from the mother branch more than sixteen months, during which time it had been wrapped up in paper, and set aside by accident in a dark dry place, yet it was in full vegetation, affording a strong illustration of the vital power of some plants. — (*Revue Encyclop.* 23. p. 75.)

HOLLAND AND THE NETHERLANDS.

Caterpillars. The injury done by these insects on the continent is much greater than we have any idea of in Britain; probably from their rapid increase during dry weather, the periods of which are of longer continuance than in this country. In the agricultural journal of the Netherlands, accounts are given of their denuding whole forests, and of the poplar tree, as being peculiarly liable to their attacks. They have scarcely any remedy, excepting in encouraging the production of small birds; in gardens, the spray and leaves are frequently cut off, for which purpose, in the case of high trees, they employ the averruncator, — (*Encyc. of Gard. fig.* 121.), under the name of the echènillier.

Single-flowered White Camellia. At the meeting on the 19th of February 1825, of the Society of Flora, at Brussels, the medal of honour was given to M. Vandermaelin, for presenting this plant, which was considered remarkable for its rarity, vigour, brilliancy, and beauty.

Accelerating Culinary Vegetables. The inhabitants in the neighbourhood of Louvain, even to the humblest cottager, are remarkable for the culture of their gardens. Many of them sow in Winter in pots and boxes, and preserve in their chambers, peas, beans, kidney-beans, potatoes, &c.; and when the weather is sufficiently mild in Spring, they transplant them in the open garden, carefully covering them every evening with straw, or haulm of any kind, to protect them from accidental frosts. The consequence is, crops in maturity nearly a month before those sown in the open ground in the usual manner.—(*Bull. Univ., Jan.* 1826.)

Employment of Lunatics in Agriculture. Brussels, Antwerp, and a number of surrounding cities, instead of confining their lunatics in hospitals, pension them out among the farmers, where all of them improve in health, some of them make tolerable workmen, and a few recover entirely.—(*Jour. d'Agr. des Pays-Bas, Jan.* 17, 1826.)

Beurré-Delbecq. This is a new Autumn pear, raised by M. Van Mons, from seed sown about thirteen years ago; it is named after the editor of a public journal (Messag. des Sci. et Arts), ripens in Autumn, and is said to be a very superior fruit. The tree is more lofty, and of a handsomer form, than any other variety.—(*Bull. Univ., March* 1826.)

DENMARK.

Populus nigra. There is a tree of this species in the south of Zealand, near the school of Herlussholm, upwards of 100 feet high, and a trunk 22 in circumference. It is of great age, very majestic, and in full vigour, without a decayed branch. — (*Feldborg's Denmark.*)

Bones as Manure. The Royal Society of Sciences of Copenhagen, have offered a prize of 100 crowns for the best essay on this subject, which may be written in Latin, French, German, English, Swedish, or Danish.

RUSSIA AND POLAND.

The Agricultural Society of Moscow, over which Prince Galitzin presides, and to which the late Emperor Alexander gave a considerable grant of land near Moscow for the purpose of establishing a farm, is going on very prosperously. It has already collected in its school above eighty pupils from various parts of Russia, even from Kamtschatka; and the journal of its proceedings has been so much in demand, that it has been found necessary to reprint the volumes for the first two years.

Horticulture in Kamtschatka. M. Fischer, of Gorinka, had sent a particular variety of potatoe to the commissary of the village of Milkowo, which produced an extraordinary crop; and several varieties of cabbage and turnips, never seen there before, have been also cultivated with complete success. Some of the inhabitants are not altogether reconciled to the use of these novelties as articles of diet; while others have disagreed as to the parts of the plants to be used. It is somewhat singular that the foliage of the potatoe should have been generally preferred, and that the red cabbage should have scarcely been reckoned edible.—(*St. Petersb. Zeitschrift., Jul.* 1825.)

Warsaw. Land is so cheap in the neighbourhood of this city, that it may be purchased for about 40*s.* per English acre. The market is very imperfectly supplied with even the commonest vegetables, and there is no nurseryman. There is, however, a very large botanic garden nearly completed, of which we hope soon to be able to give a plan and description. (*J. L., Jan.* 13.)

NORTH AMERICA.

Compressed Hay. Bramah's hydraulic press will reduce 300lbs. of hay to 12 cubic feet. In this state it will retain its qualities for an unknown length of time, either on land or at sea. A considerable trade in compressed hay is carried on between Northambi in America, and India.

Extract of a Letter from Mr. William Hall, late of Ewell, Surrey, and now of Wanbro, Edwards County, Illinois. Communicated by William Stevenson, Esq.:—

"I shall devote the remainder of this letter to giving you some accounts of my practice of gardening in this country, as well as my short experience of it under this climate will allow me. The accompanying plan of my garden, (*fig.* 59. page 331.) though rude, is accurate; and the position of every tree and crop distinctly marked, and it may serve to give you a tolerably correct idea of the place itself, always bearing in mind, that the upper end where the house stands (*a*) is elevated thirty feet above the lower, towards which it slopes with a gradual descent. The worm-fence, (*fig.* 58. page 342.) with its multiplicity of ragged angles, gives it a rough appearance, and could I have introduced the stumps, which had all trees standing on them when we came, and are from one to three feet in diameter, you would have thought it still more so. These stumps are still very numerous, particularly at the upper end; the vineyard alone (*d*) contains forty-two of them. Though a great impediment to cultivation, they are not perceptible when the crops get up, and the fence itself, if clothed with vines or fruit-trees, might not only support great quantities of fruit, but be rendered very ornamental. The part intended for the kitchen-garden, you will see, consists of three borders, one of eleven feet wide, and eight chains long, on each side the centre path, and a wide one at the bottom, two rods broad and six chains long. This form is preferred to a square of the same contents, as being more convenient for cultivation by the plough; as affording the convenience of a shady or sunny border, (an object of importance in this climate,) and also for the introduction of four lines of espaliers, by which you perceive the borders are bounded; a double row of strawberries is planted along the lower lines, which, perhaps, you might have been puzzled to make out without this explanation The six squares contain half an acre each, except the two upper ones, which are encroached upon by two rows of vines, and will most probably be wholly occupied by them as soon as I discover what kind of grape best suits this soil and climate: but this I must find out by my own experience, for settlers in a new country can have no benefit from that of their predecessors. These half-acre squares were projected with a view to experiments on the cultivation of flax, hemp, cotton, tobacco, indigo, and various other productions to which this soil and climate are adapted, and particularly to the raising of seed-corn and grasses. To none of these articles have I hitherto applied them, except to the raising a supply of seed-oats of which I had last year an acre from about a tea-cupful of seed, which I received from Mr. Taunton, and which were labelled "Georgian," but perfectly resembling a good sample of potatoe oats. I am glad to say that hitherto they have not degenerated. Had the Spring barley come in time for sowing last year, I should most likely have had a square occupied with it next year; however, it comes up well, and I must wait a year longer before I get enough to sow a square.

"My vines thrive well; they are planted in rows seven feet apart and five and a-half between each plant, and trained upright to stakes seven feet high. This I understood to be the general method in the vine countries; of course the vines must be pruned very low, and the fruit grow near the ground. I feel almost convinced this is not the best way here, several of my vines having made shoots twenty feet long last year. I consider it preferable to plant them twelve or fifteen feet apart, and to train them as espaliers, keeping always two bearing branches on each side of the former year's growth in regular succession, and pruning them to the stem after they have borne one crop; this plan I shall partially adopt this year, but wait the event before I step out of what is said to be the general mode. I have now three kinds of grapes in my vineyard: the Cape, which I procured from Vevay (of the wine from which, and the produce, from 250 to 200 gallons per acre, I spoke in a former letter); and the Madeira and the Lisbon, which I procured from Harmony. To these I shall shortly add the black Hamburgh, the sweetwater, the muscadine, and the Isabella, a native American grape, highly spoken of, all which are now growing in Mr. Pell's nursery, of which I now have the management. Mr. Pell and his family having left this for New York, I have engaged to superintend his nursery (which had been established at considerable trouble and expence) for five years, in consideration of receiving half the proceeds, after deducting labour and expences. I am also to receive half the produce of his vineyard.

"I expected to have made some wine this year, there being every appearance of a great crop, but a white frost, which happened a few nights ago, has cut off two-thirds of the bloom here, and considerably injured my own, but not nearly in so great a degree, owing to the circumstance of my vineyard being planted in a more elevated situation.

"Vines and peaches should always in this country be planted in high ground; I had plenty of peaches from the orchard at the house last year, while from the rows of trees below, the first of which is only three chains from it, and the descent not more than ten feet, I had not a single peach, and this year I have but few upon the four lower trees, but plenty upon the upper double row; the want of the knowledge of this fact has occasioned great disappointment to many persons who have planted their peach orchards in low, level situations; till this year they have hardly any fruit, and even now, although their trees blossomed well, and the fruit was well set, it has been very much cut up by the frost which I mentioned. It was thought, when I arrived in 1821, that the climate of this country was unfavourable to peaches; that year they had totally failed through this State; the next year there was abundance in the elevated situations; in 1823 the blossom was all destroyed in embryo, by a severe frost in the beginning of January, which, coming on immediately after rain, glazed all the twigs with ice. 1824 was a peach year, and so, in all probability, will this be. You will see by the plan, that I intend to supply the places of all the peach-trees below the house with other fruit. All the peach-trees hitherto planted in this part being raised from stones, there is, of course, a great variety in the fruit. Some of mine last year were very delicious, and none of them bad. There is a small collection of the most esteemed varieties through the Union, in the nursery, which I shall this year increase if I find any super-excellent. I bud upon plum-stocks, which I expect will render the trees more lasting; fourteen or fifteen years being said to be the utmost period of their perfection in this country. Their rapidity of growth is, indeed, very great. In order to give you some idea of it, I have measured one of mine, not the largest, but the most regular and beautiful tree I ever beheld. It was planted in March 1822, and was then one year old, and headed down to within eighteen inches of the ground. When pruned in the Spring following, I left six shoots at regular distances to form the head, and it now spreads over a circle of sixteen feet diameter, is seventeen feet high, and measures eighteen inches round the stem. It bore many dozens of peaches last year, and has now as many hundreds upon it, about the size of a tick bean. Of nectarines, almonds, apricots, plums, and cherries, we have had no experience; we have them in the nursery, where they grow well, but are not old enough to bear; but I have fruit set on the mayduke cherry, and on the almond. Two of the latter are planted at the extremities of my flower-borders; they are but one year's shoot from the bud, inserted in a plum-stock close to the ground, are eight feet high, and one of them has an almond set upon it.

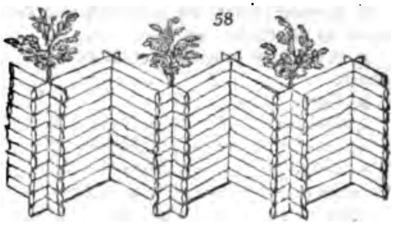
Wild plums are very abundant with us, and some of them very good, different from any I ever before tasted, the pulp of them leaving the skin as freely as a gooseberry, to which they also bear some resemblance in taste. We have filberts, Barcelona nuts, and walnuts, in the nursery, but not in bearing. Of all the nuts, seeds, &c. which came from England with the trunk, not one has vegetated. Should you send any more, pack them in sugar, which I understand to be the best preservative. [No. See Mr. Lindley's directions, p. 335.] Of pears we have specimens of the best varieties; but not being able to procure pear pips, we have been obliged to graft and bud them upon apple-stocks. They have shot very vigorously the first year, but whether they will continue to thrive remains to be seen. I come now to the apple; the fruit, after all, of the greatest importance. All the orchards hitherto planted, to which common attention has been paid, thrive remarkably well. The first, which was planted in the Spring of 1818, has now trees in it large enough to bear fruit sufficient to make a barrel of cyder each; but, with the exception of about five acres of Mr. Pell's orchard, and some trees of mine, are the only apples yet planted from seed. We have a good selection of the best kinds in the nursery, particularly three of the best sorts of the celebrated Newark cyder apples, of which, and some others, I mean to train about 200 trees, to plant five acres adjoining the south side of my garden fence. This situation is exceedingly well adapted for an orchard, and if properly attended to, there is no doubt there will be one there, to which very few, if any, will be superior. You will by this time, perhaps, think I have said quite enough upon the subject of fruit trees; I shall now quit it, and, after giving you a short account of our method of budding and grafting here, proceed to that of vegetables. In budding we differ from the manner which used to be practised in the "old country," in not extracting any part of the wood from the bud, but inserting it in the stock in the same state in which it was cut from the shoot. In grafting we get rid of the disagreeable operation of claying, by putting on the graft close to the root of the stock, and earthing it up after. This mode we find so successful, that not one bud or graft in twenty-five fails. When I came here I heard of no one who understood budding. I taught Mr. Pell, but the method of inserting the bud without taking out the wood was his own discovery; not being able to assign any satisfactory reason for so doing, he omitted it, and the result proving successful we have since continued the practice.

But now to the subject of vegetables. You will see some put down in the plan of which you know nothing but the name, and one, the ochra, of which before you perhaps have not even heard. We cultivate this plant chiefly as a substitute for coffee, to which it is little inferior; it is also used in its unripe state in soups, like green peas. The seed is about the size of a small pea, and grows in a singular kind of pod, to which I know nothing similar. The flower bears a resemblance to the cotton and the althea, and is very ornamental. It is a large spreading plant, very productive, and should stand, at least, four feet apart.

The Lima, or butter-bean, is a very fine vegetable; it grows like a scarlet-runner, and requires poles; it is used like the broad bean in England, which it resembles in shape, is not so large, quite white, and is very good in its dry state, as well as its green. I prize this bean much, and it makes ample amends for the want of the Windsor bean, which does not suit this climate. I have tried it more than once, but never could get more than the seed again; whereas the Lima is exceedingly productive. The sweet potatoe is another plant which requires a warmer climate than yours to bring it to perfection. This is a species of convolvulus, and resembles what we used to call Beth vine; it is here very productive, and produces large roots, but not so big as in more southern climates, where it is said to grow so large as a man's thigh, and so long that the Negroes sometimes sit upon one end while the other is roasting; but this I by no means vouch for, but can testify that it is a most excellent vegetable. I cultivate no other plant for the table with which you are unacquainted, unless it be roasting-ears of an early variety of Indian corn, which comes in after green peas, to which it is almost equal, and is prepared in much less time for the table.

Asparagus thrives very well, and is exceedingly productive here; it comes in about the middle of April, and, except care has been taken to protect the cabbage and kale from frost, is our earliest vegetable, and, were it only upon that account, would be very desirable. Sea-kale would, I think, do well here, but, my seed failing, I have had no opportunity of trying it. Green peas do very well here; the earliest kinds are fit to gather by the second week in May, and the late sorts will stand till the end of June. Potatoes grow also very good here; but in general I do not think them so productive or so mealy as in England, although I have had them here quite as good (the red potatoe in particular) as I ever tasted. Cabbage and kale thrive well, but, if required early, must be protected during Winter. This is not difficult; the method I pursue is to place blocks at convenient distances, large enough to keep the rails laid on them above the heads of the plants; these rails I cover with the rails of the Lima beans, with the haulm upon them, and lay other rails across them to keep it from being displaced by the wind; and this is all that is requisite to protect them through the Winter. In this manner brocoli, and perhaps cauliflower, might, I think, be protected, but I have not had the opportunity of trying the experiment. Melons and cucumbers are raised with little trouble, and grow very large and fine flavoured. I have had musk melons weigh 25lbs., and water 28lbs.: they are very delicious, but the peaches, I think, bear the bell, for we ate but few melons last year while the peaches lasted.

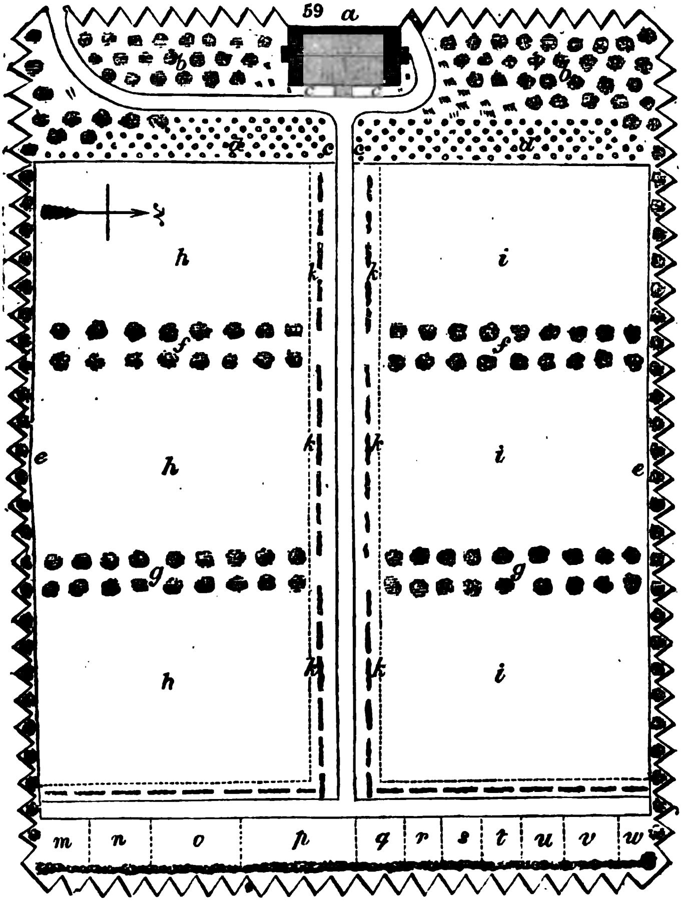
I have now, you will perhaps think, given you rather a prosing account of gardening operations, but must crave your patience a little longer, to tell you that I cultivate onions, lettuce, parsnips, carrots, beets, radishes, &c. by drilling, and find this a much better way than broad-casting; they are much easier thinned out and kept clean, and, as the ground can be almost all moved with the hoe, they grow finer. I sow parsnips, and carrots, and beets, eighteen inches apart, and the rest twelve. Between my peas, I sow cucumbers and melons, which spread over the ground when the peas are off. Judging from your own experience of the time and labour required to keep even a small garden in tolerable order in the *old country*, you will naturally wonder how I can find time to manage mine. To form a true estimate of the matter you must take the following circumstances into consideration. In the first place, you will remember that the plough is chiefly employed, and that when the spade is used, it is attended with comparatively little labour, the soil being like a bed of dry mud, and when once cleared and cultivated might be dug with a wooden shovel. In the next, here is no couch, or any other perennial root weed. It is true here are plenty of annual ones, and some of enormous growth, which, if left to arrive at maturity, would reach fourteen or fifteen feet high, and also of annual grasses; but all these, if taken in time, are soon eradicated, the soil and climate being so favourable for the use of the hoe, that by the moderate employment of it, one person can keep a large piece of ground quite clean, if he take advantage of fine weather during the months of May, June, and July; — and nothing shoots up much after. Thirdly, very little labour is employed on paths and borders, and we have no short grass or pleasure-grounds.



58

The garden (*fig.* 59.) contains three acres, sloping from the house to the east. The surrounding fence is formed without posts or nails, (*fig.* 58.) by laying rough timber, cut into regular lengths, one piece over another in a zigzag direction, such as we see sometimes done in timber-yards, with planks or deals. The ground is planted and cropped as follows.

a Dwelling-house, at the south end of which is the apiary.
b, Peach orchard.
c, Flowers, including two almond-trees.
d, Vineyard.
e, Standard apple-trees.



59

f, Avenue of peaches and pears alternately on one side, and peaches and apricots alternately on the other.

g, Avenue of pears and cherries on one side, and pears and plums on the other.

h, Oats.

i, Fallow.

k, Border eleven feet wide, planted with espalier apple-trees, and cropped with potatoes, parsnips, carrots, onions, lettuce, French-beans, and peas, to be succeeded by melons; the walk is six feet wide.

l, East fence, with a thorn hedge inside.

m, Melons and cucumbers.

n, Early maize, commonly called roasting-ears.

o, Cabbage, and other plants of the brassica kind.

p, Potatoes.

q, Asparagus.

r, Marrowfat peas.

s, Lima beans, a kind of kidney-bean, or probably a species of dolichos.

t, Early potatoes.

u, Early maize.

v, Ochra (Hibiscus esculentus).

w, Gooseberries and currants."

SOUTH AMERICA.

Culture of Tea in Brazil. Botanic gardens are established throughout the country by government, who have directed the attention of cultivators to Camellia bohea and viridis, of which one proprietor already has a plantation of 4000 plants. (*Asiat. Journ. for Nov.* 1825.)

Arracacha. In a report of the Horticultural Society of Jamaica, is a description of this plant by Dr. Bancroft, who seems to think its root may become nearly as important to Europe as the potatoe. It is about 40 years since it was known in Europe that this vegetable was in general use in the province of Santa Fé de Bogota, and the adjoining provinces of Brazil. The plant was described in Sims's Annals of Botany, some years ago, (See *Encyc. of Gard.* § 6036.) and in 1821 plants were sent to Jamacia, and in the following year to the Horticultural Society of London, Kew, &c. Dr. Bancroft, in examining its botanical characters, found it nearly allied to apium and ligusticum; but so different as to be considered a new genus, which he proposes should be called Arracacia, as being the nearest approach to the name by which it has been known in its native country. The plants sent to the Horticultural Society unfortunately died.

Vegetable Glue. The Combretum guayca which grows in New Barcelona produces a kind of glue called guayca. It resembles the best glue extracted from the animal kingdom, and is used by the carpenters of Angostura for all the purposes to which glue is applied in Europe. It is found perfectly prepared between the bark and the alburnum, and an astonishing abundance of it issues from the twining branches of the plant as soon as they are cut. It probably resembles, in its chemical properties, bird-lime, which may be called the glue of the berries of the misletoe and the inner bark of the holly. (*Humboldt's Travels.*)

ASIA.

Apples marked with the impression of a leaf, are sold in the bazars of Persia. To produce this impression, a leaf of some flower or shrub is glued or fastened with a thread on several parts of the fruit, while yet growing; the apple gradually ripens, and all that the sun reaches becomes red; the parts covered by the leaves remaining of a pale green or yellow colour. (*Newsp.*)

ART. II. *Domestic Notices.*

ENGLAND.

Improvement in Paving. A pamphlet has recently been published by Colonel Macirone, entitled, "Hints to Paviors," which well deserves the attention of every one who has any thing to do with rural architecture, or the public ways in towns. Colonel M.'s improvement consists in employing pressure in the three different stages of paving: "First, to harden the ground previously to laying the stones; secondly, to fix and depress them when laid; and, thirdly, to equalize and perfect a pavement after it has been some time in use, by applying the pressure only on the protuberant parts." The machine proposed to be employed is similar to a pile-driver, fixed to a horizontal frame with wheels, so that it may be easily drawn along any pavement, and employed to beat down protuberant stones.

Bones for Manure. Three large steam-mills and one horse-mill have lately been erected in the neighbourhood of Lincoln for grinding bones for agricultural purposes. The use of bones as manure is greatly increasing in Lincolnshire, Yorkshire, and several adjoining counties; and the same manure has lately been extensively employed in East Lothian, where it was first introduced about 30 years ago, by Mr. Sherrief, of Captain Head, who had rollers for grinding them attached to his thrashing-machine. Immense loads of bones are brought into the port of Hull by the Dutch. The bones so brought appear highly desiccated; but as they are not white, as if bleached, it is more than probable that they are carefully collected from the fields of warfare. At the re-embarking of the British troops at the retreat of Corunna, it will be recollected that the cavalry horses were dispatched in ranks, to prevent their falling into the hands of the French; and it is probable that from such sources as these some of the prodigious supplies of bones of horses are procured.

The following letter conveys valuable information to those who may be desirous of employing this excellent manure.

"Sir, *Louth, 20th April,* 1826.

"I thank you for, &c., and hasten to communicate in return the information I can gather here relative to your enquiries about ground bones. What may be the quantity ground, or capable of being ground, at Lincoln, I know not; but I am told it is not greater than the quantity ground in this town, where there are two bone-mills, one worked by water, the other by steam. The navigation from Louth to the sea is much shorter and much cheaper than it is from Lincoln; and Mr. Nell, of this place, the owner of the steam-engine, says he could deliver a cargo of ground bones at any place on the eastern side of London-bridge at 2*s.* 6*d.* per bushel, which price would include the freight and every other charge. Mr. Nell's mill grinds half-inch bones, and the bone-dust, which, he says, makes a difference of nearly a stone in the weight of every bushel, compared with those from which the dust is sifted out, as is sometimes done, is included in his measure. A cargo for our small sloops would contain about 2500 bushels, which is about the quantity used every year by the farmers in general in this neighbourhood for their turnip land; though we have one large farmer, Mr. Dawson, of Withcall, who, I understand, uses not less than 12,000 bushels every year. His farm is situate in what are called the Wolds, the hills, of Lincolnshire, where the soil is, for the most part, very shallow, stony, and acrid, and requires twenty bushels to the acre, though tolerable soil does not require more than fifteen, nor good soil more than ten. This manure is becoming the most common one used in this county, where, indeed, the Wold farmers cannot depend, with any degree of certainty, upon their turnip crops, without the application of ground bones. If the gentleman you allude to thinks proper, he can procure a cargo from Mr. Richard Nell, who trades regularly with London, but who could not ship less than a cargo, since bones cannot be conveniently put on board a vessel with any other thing. I am not engaged practically in farming, but the farmers hereabouts say that no manure returns such good crops and such good profit as ground bones.

" I am, Sir, &c.

" R. P."

We have lately been informed, that previously to the exportation of these bones by the Dutch, they undergo a process by which their gluten is extracted, and converted into carpenter's glue and portable soup-cakes. If so, such bones, as manure, will not be much better than lime. It is rather singular that the Dutch, who are so remarkably assiduous in collecting other kinds of manure (*Encyc. of Agr.* § 487.) should not use the bones themselves.

A good way for gardeners to collect bones for vine-borders, or other purposes, is to make it known in the neighbourhood that they will give so much per hundred weight for all that is brought to them. As they are received they should be broken by hammers into small or large pieces, as the effect is intended to be immediate and powerful, or gradual and prolonged. For distant effect a number of the bones should be buried whole, on the same principle that opium-eaters envelope their pills in paper to retard dissolution in the stomach.

The Yorkshire Horticultural Society held their May meeting at Baldwin's Hotel, Kirkstall. The weather was beautiful, and the attendance numerous and highly respectable. The exhibition of fruit, consisting of pine-apples, grapes, peaches, and cherries, considering the early season of the year, was fine, and there were also good specimens of potatoes, cauliflowers, and cucumbers, and a beautiful assemblage of tulips, wall-flowers, auriculas, rich and varied exotics, and hardy bouquets, geraniums, &c. The chairman, the Rev. J. A. Rhodes, congratulated the meeting on the successful efforts of the Society in producing such a luxuriant display of fruit and flowers at that early season of the year, and on the full and respectable attendance on the occasion. The judges of the fruit and flowers were Messrs. John Senior, James Craven, and John Gough. Numerous prizes were awarded; among others, 2 for grapes, 2 for cherries, 2 for auriculas, 10 for tulips, 1 for a pine-apple, 1 for peaches, and several for potatoes, cauliflowers, cucumbers, &c. The exhibition was enriched by specimens of flowers and fruits from the gardens of several ladies and gentlemen in the neighbourhood. Mrs. Dealtry, of Lofthouse-hall, an honorary member and patroness of the society, presented the meeting with some beautiful specimens of wall-flowers, of delightful fragrance, and of rich colour; also a dish of preserved apples, quite plump, and in good condition. This lady communicated to the meeting, through the medium of the chairman, her mode of preserving them, which was highly approved. Fine cucumbers, grapes, geraniums, exotic plants, &c. from the garden of the Rev. J. A. Rhodes. Lasiopetalum quercifolium, Cactus grandiflorus, &c. Mr. Barnes exhibited a drawing of grass-plots, or a plan for laying out pleasure-grounds. Mr. Joseph Perry, artist to the London Horticultural Society, (?) who intends taking up his residence in this part of the country, exhibited a variety of highly-finished drawings of fruit, for which a prize was awarded. — (*Leed's Mercury, May* 20.)

We should feel much gratified by a communication from Mrs. Dealtry on her mode of preserving apples; and also from Mr. Barnes, with his plans for laying out pleasure-grounds. Our readers, we are sure, will second our wishes on these subjects.

The first exhibition of the Hereford Horticultural Society took place at the Shire-Hall in that city on Tuesday, May 23d. On a table in the room were a plate of remarkably fine strawberries, Wilmot's superb; large and fine kidney potatoes from New Court (the Rev. —— Lilly), and a plate of mushrooms from Sir E. Stanhope's garden, at Longworth. P. Jones, Esq., of Sugnas, sent four sorts of apples, in such excellent preservation that some of them were nearly as fresh as when taken from the tree.

American Aloe. A superb specimen flowered in September last, in the gardens of E. P. Bastard, Esq., M. P. at Kitley, Devonshire. The flower-stalk was 20 feet high, and displayed upwards of 2000 flowers, arranged on whorls of horizontal branches, so as to resemble an immense candelabra. The plant is 110 years old, and is known to have been in the Kitley gardens upwards of a century.

Zoological Society. A prospectus has been issued, sanctioned by the most respectable names, for the establishment of a society bearing the same relation to zoology that horticulture does to botany. The objects are to be the introduction of new varieties, breeds, and races of animals, for the purpose of domestication, or for stocking our farm-yards, woods, pleasure-grounds, and wastes; with the establishment of a general zoological collection, consisting of prepared specimens in the different classes and orders, so as to afford a correct view of the animal kingdom at large, in as complete a series as may be practicable, and at the same time point out the analogies between the animals already domesticated and those which are similar in character, upon which the first experiments may be made.

Cockles. Some naturalists have discovered, between Greta-bridge and Darlington, a great number of cockles, of the species which live in salt water, Cardium edule, living at the bottom of deep ditches in a peat moss. This remarkable fact coincides with other recent observations, in proving that a number of salt-water fish will also live in fresh water. It opens a fine source of improvement to such as have pieces of water in their parks, to attempt the introduction of new breeds there. Mr. Bakewell, in his entertaining and instructive travels in the Tarentaise, has already suggested the idea of naturalizing several species of foreign fish.

Salt. From several experiments made by Mr. Bennet, and detailed at a late meeting of the Bath and West of England Society, it appears that salt is "not so valuable as a manure, as in making the corn ripen earlier than it would otherwise do;" that is, it is not a manure at all, but merely a stimulant.

Packing Seeds and Plants in Foreign Countries. In a pamphlet on this subject, prepared by Mr. Lindley for the use of the collectors for the Horticultural Society, and dated 1825, the following information is given.

1. *Seeds.* In cold countries dry them well, wrap them in dry brown paper, and place them in a dry and airy part of the ship. In tropical countries keep the seed in the vessels or pods, and wrap them in dry paper; but clean seeds of berries, or eatable stone-fruits, from their pulp, and wrap them in paper, unless they are oily or resinous. If this be the case, pack them in clay. Seeds of the mango, of the guttiferæ, magnoliaceæ, sterculiaceæ, acorns, and walnuts, may be thus conveyed from hot countries much better than by any other mode; or sow in boxes of earth. "Seeds should never be allowed to cross the equator, because the extreme humidity and heat of the equinoctial atmosphere universally proves very destructive to their vegetative powers."

2. *Cuttings of Fruit Trees.* In the Winter season stick the lower ends into a potatoe, or lump of well-tempered moist clay; then pack in moss, &c.

3. *Bulbous or Tuberous-rooted Plants.* Dry them till all the moisture in their outer coats is evaporated, and then treat them much in the same way as seeds.

4. *Living Shrubby or Herbaceous Plants.* Plant them in square wooden boxes, and place these close together in a larger box, with a glass lid; as described and figured in *Encyc. of Gard.* (§ 1405.)

5. *Epiphytical Plants.* Get them in as large and old masses as possible, and pack them loosely in moss, in boxes so constructed that the plants may be exposed to a free admission of air, but be protected from the sea-water. To the above we may add,

Aquatic Plants. Pack, or rather plant them, loosely in moss, in a vessel open, or covered with a netting at top, and containing some water under the moss. Sprinkle the moss with water once or twice a-day. In this way we brought a rare aquatic from the canal of the Brenta, near Venice, to Paris, in the Autumn of 1819.

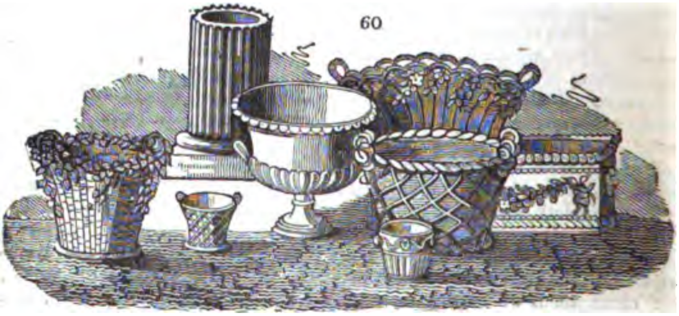
6. *Specimens of Plants.* Dry between leaves of common brown paper; or for such plants as pinuses, heaths, and for fleshy-leaved plants in general, plunge in boiling water before drying, or make the papers in which they are laid very hot; either of which practices will prevent them from parting from their vitality so irregularly as to fall in pieces in drying, or so slowly as to render the operation very long and tedious.

7. *Specimens of fruits.* Dried fruits may be packed as seeds; succulent ones, placed in vessels filled with cheap weak spirits.

8. *Specimens of Capsules.* Dry them and pack them carefully, so as to preserve their shape.

9. *Specimens of the Woods of Commerce.* Affix their local or commercial names, and try and accompany them by specimens of the leaves, flowers, and fruit of the tree from which they were obtained, preserved or packed as before directed.

Ornamental Flower Pots. Mr. Wilmot, of the Lewisham nursery, is getting made for sale, a number of ornamental garden-pots and stands for the more choice plants usually placed in the conspicuous parts of lawns. A few of the patterns he has enabled us to subjoin. (*fig.* 60.) The colour is to be a light fawn.



60

The Compression of Timber, by passing planks between rollers, has lately been made the subject of a patent. The chief object is its preservation from dry rot, by expelling moisture and closing the interstices.

Regent's Park. We are much gratified to learn, on the authority of parliament, that the fences which surround this park will be removed as soon as the trees and the turf are sufficiently grown, and the whole thrown open to the public, in the same manner as Hyde Park. The present state of the former has hitherto been the opprobrium of foreigners, who have looked upon it as indicating an inattention to the enjoyments of the common people, which it is satisfactory to learn, does not exist to the extent alleged. — One thing we cannot avoid noticing here is, that the single trees lately dotted over the open spaces are put in without the slightest regard to effect. To say that they are in bad taste, would be paying them a compliment — but they display no taste whatever; all that can be said is, that somebody has been ordered to plant a number of single trees, and that single trees have been planted accordingly.

Ten-week Stocks. A great many varieties have been lately raised in Saxony by the weavers, and other manufacturers and tradesmen there, who seem to have the same sort of taste for flowers as their brethren in Britain. Mr. Lee has just presented us with plants of sixty sorts, with names; he imports the seeds annually, and consequently these fine flowers will soon become general.

Dr. Von Martius, the celebrated traveller, is now in London. Though old in celebrity, he is quite a young man. He travelled upwards of three years in the Brazils with the late Dr. Spix, and has since published a learned and elaborate work, in two quarto volumes, describing a part of the new plants discovered, exceeding, in all, 2000 species. The present king of Bavaria having no taste for botany, has left Dr. Martius to continue the publication of this work at his own expence; and we are sure that every man who has a just notion of the value of science would wish to have such a work, from such an author, and produced under such circumstances, in his library. The plates are coloured, and consist not only of figures of plants, many of which are of great singularity, but of specimens of landscape, and general scenery, not less foreign to European ideas. Whoever has read the first volume of the personal narrative of Dr. Spix and Dr. Martius, translated and published two years ago, cannot but feel an interest in the man whose extraordinary thirst for information overcame his repugnance to that most horrid of Indian drinks, EIMER; great as was the enthusiasm of Dr. Spix, yet he could not conquer his aversion to the horrible potion. (*See Spix's and Martius's Travels*, vol. 1. London, 8vo.; and *Nova Genera et Species Plantarum, &c. &c., collegit et descripsit Dr. C. F. P. de Martius*, vols. 1. and 2. Munich, 4to. 1826.)

ART. III. *Scotland.*

Caledonian Horticultural Society, April 14. The competition show of auriculas and polyanthuses, for prizes given by this Society, took place in the Physicians' Hall, and several premiums were awarded. The number of exhibitors, either of auriculas or polyanthuses, for the stage, was considerably smaller than in some former years. Polyanthuses, it is believed, have very generally suffered much during the past Winter. The seedling auriculas were rather numerous, and of high promise; some sent by Mr. Macdonald of Newington (and which were necessarily excluded from competition, on account of that gentleman having gained the medal for seedling auriculas in 1825), were regarded by the connoisseurs as fine flowers. The stage polyanthuses of Mr. Hately, and the seedling polyanthuses of Messrs. Dickson and Co., were also much admired. A collection of about twenty varieties of polyanthus narcissus, from the open border at Biel, formed one of the novelties of this exhibition.

At the meeting of this society, June the 1st, the best early melon produced in competition was a rock cantelope, raised by Mr. John Macnaughton, gardener to Colonel Wauchope at Edmondstone (a meritorious encourager of horticulture and of gardeners, who paid ten guineas to make his gardener a free ordinary member of this Society): seed sown 1st March, in small pots; kept in the pine-pits for 15 days; transplanted 16th March into a two-light pit-frame (the Edmondstone frame); soil, two parts loam-turf mould, one part strong clay, one part rotten dung, one part pit-sand, all well mixed.

Two parcels of grapes were regarded as so nearly equal in merit that the committee felt it right to award two medals; one for black Hamburgh, raised by Mr. Thomas Inglis, gardener to the Hon. Mrs. Ramsay at Barnton; the other, for Frontignac grapes, to Mr. Robert Reid, gardener to Sir Alexander Keith, Baronet, of Ravelstone.

Several baskets of early peas appeared, and all of them were of good quality. Those considered best were of the early frame kind, raised by Mr. James Arklie, gardener to William Grant, Esquire, of Congalton: sown 26th October, at the bottom of a south-aspected wall, with a little light vegetable mould over them in the drill, covered with a few spruce branches in time of hard frost, and kept close to the wall with straw ropes; two pecks were sent to the high commissioner's table on 18th May, the first produce. A basket of Nash's early frame were too ripe; they were from Mr. Alexander Bisset, gardener to Colonel Smyth of Methven; he had had dishes for near three weeks previous; his practice was considered so good as to deserve an extra medal. For some years past he has sown in January, on reversed sward turfs, laid on a slight hot-bed, the turfs being ten inches long by five broad; in March, he plants out the entire turfs, with the young peas growing on them, which thus escape any check from transplanting. (See *Gard. Mag.* 127.)

The early potatoes, without bottom heat, were very good. The largest, but evidently selected tubers from many plants, were raised by Mr. Inglis, at Barnton. Some raised at Dunrobin in Sutherland excited surprise.

The best double anemones were found to have been cultivated by Mr. William Milne, gardener to Gilbert Innes, Esq., of Drum.

Some very beautiful purple and red Brompton stocks, from the garden of John Leven, Esq., Burntisland (which slopes to the south, and is washed by the sea, while it is sheltered from the north), were much admired; and an uncommonly luxurious plant of ten-week stock, about six feet in circumference, from the garden at Barnton, excited general admiration. Several members were elected.

The Secretary read a letter from Mr. Bosc, the celebrated Director of the Jardin des Plantes, kindly engaging to fulfil the intentions of the late Professor Thouin, to send grafts, plants, &c. to the experimental garden at Edinburgh, and liberally offering to add such novelties as can be spared from the magnificent collection under his charge. (*Com. by the Secretary.*)

Caledonian Society's Garden. The ground-work is nearly completed, and also the gardener's house; and preparations are making for erecting two hot-houses.

The Melon Strawberry. This is a seedling, raised at Aberdeen, and which has been declared by Dr. Dyce, of that city, to be the "finest variety in existence." "The size and shape of this fruit in a great measure resemble the roseberry, but rather larger; the colour is very dark, the flavour exquisite, and the plant is an abundant bearer and forces well." The above description, together with two or three plants, were sent to Messrs. Malcolm and Gray, of the Kensington Nursery, in the begining of May last, by Mr. Alexander Diack, Secretary to the Aberdeen Horticultural Society. We have tasted in Mr. Groom's garden, Walworth (page 351.), what are there called Diack's No. 1. and No. 2., which are excellent strawberries, and great bearers.

Dumfries Horticultural Society and Garden. Letter from the Secretary, William Grierson, Esquire.—"Dear Sir: In the last number of your Magazine, I observed your remarks on the Dumfries and Galloway Horticultural Society, which are so far very well, with the exception to your concluding opinion respecting the experimental garden; which, I fear, may damp the patronage to it, if not frustrate the object altogether. The project has met with the approbation of the London and Edinburgh Societies; and, from the local situation of Dumfries, it has been considered as a very proper place for the formation of such a garden. We never contemplated an establishment of an extent to be compared with those of London or Edinburgh; but one on a limited scale, rather as a branch of these parent institutions; and as a medium to disseminate improvements in our immediate district, and to induce a spirit of emulation amongst gentlemen and their gardeners all over the country. Such, I have little doubt, would be the result of an experimental garden; and it might also prove a school from which the gardeners in the district would derive much advantage. We are removed at a great distance from London, and 72 miles from Edinburgh; so that comparatively few of us know any thing of what is going on at these places; besides the probable utility, as a public ornament, and combining a rational gratification, it deserves encouragement. Among the inhabitants of a town of no inconsiderable population, such as Dumfries, there must be many who have a taste for the cultivation of plants, but possess not the advantage of a garden of their own; even in that view it might prove of importance; but as to proving the cause of the dissolution of the Society that set it agoing, with due deference to your opinion, I cannot see how that inference can be drawn; since experience has not furnished any example, for it is unknown to me, that any provincial garden has ever yet been formed. I am, &c.

Dumfries, April 7. "W. GRIERSON."

ART. IV. *Ireland.*

Horticultural Society of Ireland, April 17*th.* At the annual spring show of flowers 3 prizes were given for green-edged auriculas, 3 for grey-edged, 3 for white-edged, 2 for self-coloured or non-variegated sorts, and 2 for seedlings. For polyanthuses 3 prizes were given; for red hyacinths 2, for blue 2, for white 4, and 3 for yellow. A first, second, and third prize were given for 6 pots of exotics; 4 prizes were given for broccoli, 2 for apples, 2 for pears, and 2 for cucumbers. The judges were, the Marquis Wellesley, and fifteen other noblemen and gentlemen, with four nurserymen, and Mr. Mackay, the curator of the Trinity garden. We regret that the names of the particular varieties of flowers, fruits, &c. are not given in the advertisement, as it prevents great part of the benefit which would result to practical men. For instance, it would have been of some use to many in Ireland to know what sorts of pears and apples will keep to the middle of April.

May 1. The committee met, and awarded various premiums for peaches, grapes, melons, peas, turnips, and cauliflowers.

Farming Society of Ireland, April, 8*th.*—His excellency the Lord Lieutenant, patron of the Society, was good enough to send to the Directors some specimens of Indian agricultural seeds, for the purpose of experiment as to their cultivation in this climate. Mr. Synge sent in an improved model of his furze-bruiser, worked off his threshing-mill, and with the labour of two men, supplying 17 horses and 14 cows with wholesome food, at 1*d.* per bushel, or about 4*d.* per day for each animal. (*Irish Farmers' Journal.*)

Mulberry Trees. The company for the promotion of silk in Ireland have given instructions to their agent, Mr. George Wade Foott, to accommodate any gentleman of landed property with such a number of the trees as he may have occasion for, charging them only the first cost, which, we understand, is but 4*d.* each. An opportunity will, therefore, be afforded to gentlemen for supplying themselves by the cargo of the Esther with

200,000 trees, which are daily expected. A parcel of mulberry-seed is also expected on board the Esther, and Mr. Foott has directions to give such gentlemen as may wish for it a sufficient quantity for sowing; the company liberally intending to benefit the country at large, by the general introduction of the silk manufacture. — (*Cork Constitution of April 1st.*)

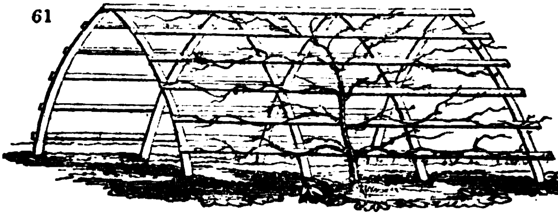
Cultivation of the Grape. Towards the close of last year all the Irish newspapers noticed the singular success which for five years has rewarded the exertions of Mr. John Pendergast, in cultivating large crops of well ripened grapes in the open air, without any artificial heat whatever, at Innistionge. Mr. Pendergast is now so fully persuaded of the practicability of producing abundant crops of this much esteemed fruit in warm situations in the county of Kilkenny, trained over the surface of the ground, by an improved system of culture, and the natural influence of the sun alone, that he is propagating plants from these very prolific vines, to stock a piece of ground containing about a quarter of an acre, which he means to train in the continental style. Judging from what he has already experienced, of these vines being capable of doing in the open air, he calculates that this quarter of an acre, so planted, will leave him a very considerable sum in three years, besides paying ground rent, and every other expence. — (*Dublin Evening Post.*)

Lectures on Botany at Belfast. Doctor Drummond is now delivering, at the Belfast Academical Institution a course of lectures on such wild garden plants as may be found in flower, in the neighbourhood of Belfast; in which he explains their botanical characters, their history and uses, and the general principles of Linnæan botany. The above-mentioned course is attended principally by ladies, of whom between forty and fifty attend regularly and zealously. At the solicitation of a number of young men whose avocations in business prevent their attendance on a mid-day class, Dr. Drummond has a morning class on the same days at eight o'clock, which is attended by twenty members, a number perhaps as great as could reasonably be expected, considering that this is the second course of botany ever given in Belfast; that there is no botanic garden; and that a taste for the science has been little cultivated or encouraged.

Art. V. *Horticultural Society and Garden.*

Hort. Soc. April 4. Communications were read on propagating roses; on growing the pine-apple without the aid of bottom-heat; and one by Mr. A. Stewart, gardener at Valleyfield, accompanied with a drawing, (*fig.* 61.) on a neat method of training espalier trees. The articles exhibited were some varieties of the Camellia japonica, and the double yellow rosa Banksia, with small bright yellow flowers, from the garden of the Society; eighty-four sorts of apples, in good preservation, from Mr. Ronalds, of Brentford; some Colmar and Bonchretien pears; tart rhubarb; a double-

61



flowering plum from the Isle of Wight; and some fruit of the Glychrosma citrifolia from the garden of the Society. This fruit has a sweetish taste, and resembles that of the white or amber currant in appearance. There were likewise exhibited a map of the island of St. Michael's, and a drawing of a proliferous-headed Chinese pine-apple.

April 18. A paper by the president was read on pears. Mr. Knight had begun so early as 1810 to impregnate the blossoms of the swan's egg with different varieties of the finer French pears, with a view of producing some new and improved sorts, which might be grown as standards and espaliers. A number of the seedlings having now fruited, a few were selected which appeared to have all the hardiness of the swan's egg, with some of the high flavour of the French sorts. Mr. Knight thinks these may be advantageously introduced into general cultivation; but as the first year's fruits of a seedling are not always a fair sample of what the tree will ultimately produce, he is unwilling to recommend them till they have been farther tried; and in order that they may be compared with other sorts in the garden of the Society he has sent grafts, &c. The articles exhibited were, a fine specimen of what is called Rhododendron fragrans, from the nursery of Messrs. Chandler and Buckingham, elsewhere noticed by us, as a hybrid, between Azalia pontica and Rhododendron ponticum, in which the habit and general appearance of the latter are united with the fragrance of the former. Two other seedling Rhododendrons, with the prevailing character of R. Catawbiense, were exhibited by the same cultivators; a fine specimen of Oncidium altissimum, an epyphyte, with a raceme of brownish flowers above a yard long, from the garden of the Society; some sea-cale, and tart rhubarb (R. hybridum) very strong; some asparagus; three sorts of forced strawberries, also from the Society's garden; flowers of Thunbergia alata, yellow and very fragrant, also from the garden of Robert Barclay, Esq. It was observed by the secretary, respecting the asparagus, that seeds from different parts of Britain and the Continent were in cultivation in the garden, for the purpose of ascertaining if there really were different varieties of that vegetable, and that as far as the experiment had gone the conclusion seemed to be in the negative. The asparagus is less liable to sport than most plants which have been in high cultivation, and nearly the same thing may be said of the sea-cale.

A blossom was exhibited of a new species of Camellia, named C. Rawsiana, recently imported from China by Thos. Carey Palmer, Esq. of Bromley. It was of a deep crimson red colour, double, with tufted petals in the centre; but the specific difference between this species and C. Japonica did not appear obvious in the general view. A specimen of woollen netting, for protecting wall-trees, was exhibited by Sir Robt. Vaughan; it can be produced in North Wales for five-pence a square yard. Some early Chasselas and black Hamburgh grapes, orange and stone-pippen, and Beachamwell apples and Bonchretien pears were exhibited and tasted. The seeds distributed at this and the former meeting were, mountain pink, Œnothera tetraptera, red-fleshed Malta melon, celeriac, white solid cellery, vestia lycioides, snake melon, and wheat of the kind from the straw of which Leghorn hats are made.

Among the books presented was one by George Bangley, Esq. containing representations of plants worked in silk. But what attracted more attention than any thing else exhibited, were three imitations of plants, in wax, by a French artist, M. Montaban, artificial flower-maker, 225. Piccadilly; two of the plants were Camellias in pots, with double flowers, and the third was a small orange-tree, with fruit and flowers. The imitation of the leaves and flowers was so perfect, that they would have been taken for realities, had it not been for the stems and the imitation of mould in the pots, neither of which was at all equal to the other parts.

May 2. Among the books presented were the Bon Jardinier for 1826, which we shall review in a future Number, and a Number of a work on the rare plants of the garden of Geneva. There was also a large drawing of a monstrous pine-apple, which had grown in the West Indies, the top of which had spread out into a sort of cock's comb shape, about two feet long, edged with various crowns. The articles exhibited were, seven varieties of double wall-flower, of different shades of colour, from light yellow to blood red; double and single tulips of different sorts; and one flower from a root brought from Persia, black bottomed with red and white petals, sharp pointed, pretty, but the very reverse of a florist's flower; two varieties of pæony, single, or semi-double, and both of pale colours; flowers of Ribes aureum, or yellow-flowered currant, with fine glossy leaves, a plant now common in the nurseries, and which is in fruit at Kew; the fruit said to be excellent; a flower of Calceolaria formosa, a plant rather difficult to keep; flowers of Glycine sinensis, which the secretary observed was one of the handsomest plants hitherto introduced from China, perfectly hardy, and flowering twice a year, in Spring and Autumn; double yellow rosa Banksia, from the open wall of the Society's garden, where it is now thickly covered with flowers; double-blossomed whin, a variety of Ulex Europæus, found a few years ago in Devonshire, a most ornamental shrub, of the easiest culture; a plant of a new variety of Azalia Indica (var. Phœnicia) with large purple flowers: it was imported by the Society about a year ago, and is the fourth variety of that elegant plant now in the country. The following fruits were tasted; Bostock, Scarlet, King's seedling, and Roseberry strawberries; Marseilles figs, grown in pots, and treated in Mr. Knight's manner, (*Encyc. of Gard.* § 3161.) from the garden of the Society; loquats grown in the hothouse of Lord Powis, and said to be a distinct variety from that common about London; indeed, the loquat being frequently raised from seed, the varieties in the gardens are numerous. The fruit was rather acid, and, to our taste, far inferior to any common plum; ripened in Summer they would most likely have a better flavour. The Sweeny nonpareil, and stone-pippin, were in good condition; and some black Hamburgh grapes, grown by Mr. Andrews of Vauxhall, had a very good flavour. An unnamed pine-apple, grown by Charles Gomand Cooke, Esq. was also very good; it was rather above middle size, and conical shaped. Two oranges, imported from China were exhibited, the one large and flat, the other small and round, and both of a dirty brown colour from long keeping. Some potatoes were shown which had grown in the open ground in the neighbourhood of Penzance, but under what circumstances of culture, locality, or variety, was not mentioned; the tubers were oblong, and seemingly mature; they were sent by Mr. John Eddison of Penzance, from whom, if he should see this, we should be glad of some particulars respecting them; for, though the climate of Penzance is much warmer than about London, yet the variety may have peculiar properties, which may render it valuable for any climate. Some fine heads of Cape broccoli were presented by Mr. James Dann, which one gardener present called dwarf Danish, and another Siberian broccoli. The seeds distributed were rampion, and curled, and early knob celery. No papers were read. Our much respected president was in the chair, and announced that on the anniversary the same officers had been re-elected. The dinner of the Society, we understand, was but thinly attended, and no exhibition was made of the dessert, as in former years. We regret the want of the dessert, as we think the sight of that as well calculated to promote a taste for horticulture, as any part of the Society's transactions.

May 16. The communications read were, on acclimating tender herbaceous plants and shrubs; on the treatment of melons and cucumbers; on the treatment of the vine; and on a compost for the pine-apple.

Some black Hamburgh and sweet-water grapes, some strawberries, some ripe figs, and a Ripley queen pine were exhibited and tasted. The secretary observed that the latter was a very distinct sort of pine to that commonly called the Ripley, and indeed it differed little in external appearance from the old queen pine. Specimens in flower of the following plants were exhibited: Yellow-flowered and white-flowered rosa Banksia; the three-leaved China rose, more commonly known by the name of the Cheroke rose, Rosa sinica; Pyrus grandiflora; Pyrus floribunda; Genista decumbens; Spartium scoparium and spinosum; Oncidium humilum; Pancratium illyricum; Cytisus purpureus and supinus; four sorts of wall-flower, and various sorts of tulips and pæonies; but the most conspicuous object was a specimen of the Carolinea insignis, from the stove of Messrs. Loddiges, a fine plant from the Spanish West Indies.

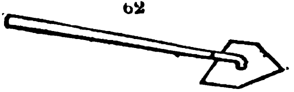
June 6th. The first paper read was on the cultivation of plants in live moss by Mr. Sweet, gardener at Biel, Haddingtonshire. Mr. S. collects plants of sphagnum and other mosses, sometimes paring off a little of the surface in which they grow, and mixing it with them. In pots of this mixture, Mr. S. finds marsh plants, such as canna, hydrangea, and a great many other genera, grow remarkably well; bulbs did not succeed very well in it, though crocus flowered freely; cuttings, such as those of aucuba, and other genera, struck root in it. The advantages of this mode of culture are said to be neatness of appearance and no crumbling of earth and dirt in moving the pots, watering the plants, or turning out the balls to examine the roots. A similar practice has been carried to a certain extent, by Mr. Sweet, Mr. Shepherd of Liverpool, and especially by our much-esteemed correspondent Mr. Archibald. (See p. 255.)

The next paper was on the different varieties of the tree Pæonia, by the Secretary; and the last on the infancy of vegetation, by a foreign writer.

The articles exhibited were, Vanack cabbage, Pæonia albiflora Whitleiji, Rosa Boursault, various double Scotch roses, twenty-three varieties of Azalia pontica, and above twelve species and varieties of Rhododendron, by Mr. Lee; eight species of iris; six varieties of Viola tricolor; Drummond's thornless rose, which has been in flower for a month; double scarlet anemones; double garden ranunculuses; the yellow Scotch rose, from a plant obtained last year from Paris; Lonicera flava, &c. from the garden of the Society; Gloriosa superba, from Sir Charles Hulse; Brassia caudata, Quisqualis Indica, Zephyranthus grandiflora, the Sir Abraham Hume geranium, and some other geraniums and plants, by different individuals.

The fruits tasted were, a queen pine, some peaches and nectarines, cherries and strawberries, and a fruit of Xanthochymus pictorius, from the garden of Mrs. Beaumont at Bretton Hall, being the first time the plant has ripened its fruit in this country. It had an acid taste, by no means agreeable.

62



A thrust-hoe was exhibited by Mr. Knight of Clapton; it differs from the common Dutch or thrust-hoe in having a sharp edge behind as well as before, and in having the edge of the fore-part of a pointed form (in the way of *fig.* 62.). Mr. Knight has very properly instructed and authorized a respectable manufacturer to introduce them for general sale. The seeds given away were yellow savoy, and green chard beet.

The following notice was read by one of the secretaries:

Sale of Garden Produce. — "The Committee have directed that in future all such fruits and choice esculent vegetables as shall remain at the Garden after the supply of specimens for examples, and for exhibition at the meetings of the Society, shall be disposed of to the Fellows of the Society, or to persons recommended by them, in the following manner: — A list of such articles as can be disposed of, with moderate prices for the same annexed, shall be sent daily to the Society's house from the Garden, for the inspection of the Fellows of the Society, or persons authorized by them, who shall be at liberty to order any of the articles on the list for the next, or next but one succeeding day, and which articles shall be sent up to Regent Street by eleven o'clock on the day fixed, and shall be forthwith delivered at the house in London of the person ordering the same. Payment to be made at the time of delivery."

It was observed by the Secretary that it was not intended by this measure to injure the market-gardeners; but merely to enable members of the Society, and their friends, to taste fruits and other garden articles more correctly named than they generally are in the public market.

June 20th. The principal papers read were a report on the plants which had flowered in the garden of the Society during the by-past year; one on Glycine Sinensis, by Mr. Sabine; and one on the clubbing of cabbages, by Mr. Thomas Blake, gardener to Mrs. Butts, at Kensington. Among the books presented were a volume of the American Farmer, and one of the Memoirs of the Agricultural Society of New York. The flowers on the table consisted of a fine collection of roses, from Mr. Lee; two blossoms of Magnolia macrophylla, from the garden of H. Gray, Esq., of Harringay, near Highgate; the plant there, and that at the Duke of Devonshire's, at Chiswick, being the only plants near London that have yet flowered. The leaves and flowers are much larger than those of any of the other Magnolias; the flowers white, with a slight degree of sickly odour. A collection of ranunculuses, some pæonies, Ixora rubra and coccinea, Rosa Grevillea, the Champney rose, a variety like R. Noisette, and Lonicera flexuosa, from the garden of the Society. Rosa Grevillea is a variety of R. multiflora, and in a single faciculus of flowers are roses of every shade of purple, from white to the darkest tint; it is one of the handsomest of climbing roses. Lonicera flexuosa, though often kept in green-houses, seems to be as hardy as the common honeysuckle, which it greatly exceeds in fragrance, and in abundance of blossoms. These two roses, and this honeysuckle, and also Lonicera Japonica, deserve a place in every garden. A fine collection of pinks was presented by Mr. Hogg of Paddington, and flowers of Cactus speciosissimus from Mrs. Beaumont; Lilium longiflorum, from the garden of the Society; and some azaleas by different individuals. The only culinary vegetable on the table was mountain spinage, seven varieties, from the garden of the Society. This is the sort of spinage in general use round Paris, and deserves, in our opinion, to be more generally cultivated in this country as a Summer spinage; its leaves, which it produces in abundance on stems sometimes six feet high, being as succulent in Summer as those of common spinage are in Winter. There were 37 sorts of strawberries from the garden of the Society tasted, and also a new seedling, raised by Mr. Knivet of Turnham Green, from the common pine impregnated with Keen's imperial. We saw it in Mr. K.'s garden some days ago; it is a handsome fruit, in general appearance like the pine; hardy, a great bearer, and considered high flavoured. Mr. K. intends to bring it out about Michaelmas, 1827, and is in the mean time raising as many plants as he can for that purpose.

Horticultural Society's Garden, May 22. In the experimental division of the ornamental department, we observed a handsome row of greenhouse plants, from 2 to 4 feet high, plunged in the soil, with the pots covered, and occupying a small border along a walk. They are chiefly Australasian plants, and the intention is, probably, to prove their comparative degrees of hardiness; but, at any rate, the effect is exceedingly good, and might be adopted and improved upon, in private gardens. A collection of single specimens arranged in this way, following each other in natural relationship, bordering a revolving walk, as in Messrs. Loddiges' arboretum, and named with glazed china tickets, as in Mr. Boursault's garden in Paris, or Mrs. Beaumont's conservatory at Bretton Hall, would form an easy and agreeable source, for ladies to acquire a practical knowledge of botany. There is nothing, indeed, more conducive to this taste, than placing the names of plants upon or beside them, in conspicuous, but not obtrusive labels or tallies. We regret that this is not done in the arboretum at Kew, and we hope it will ultimately be adopted in every department of the Chiswick garden. The mere circumstance of seeing and reading these names, by attracting attention and exciting curiosity, gives rise to a taste for plants; it is, therefore, desirable that public bodies should use the means of originating and promoting a taste so agreeable, peaceful, and useful.

We pass over many things of interest, to notice three beautiful epyphytes, Calathea veratrifolia, Oncidium humilum and flexuosum; and three fine aquatics, Eulophia gracilis, Pontaderia cordata, and Limnocarpus plumerii, in flower in the hot-house. The plants are in their usual excellent condition, being abundantly supplied with heat and moisture; the paths were literally flooded. The Australasian bees have unfortunately died during the last Winter.

In the experimental garden of the fruit department, the principal thing worthy of notice is the vigour of the pine plants, of which there are some new and apparently distinct varieties from Sierra Leone, selected by Mr. George Don, when botanizing in that colony. In one pit, Trapa natans, Scirpus tuberosus, and the water chestnut, are planted in cisterns of mud and water, with a view to their cultivation as esculents; and the fruit of Passiflora edulis has attained a considerable size on the back wall. The different descriptions of pits erected in this department are well deserving of attention, and will be particularly noticed on a future occasion. No article of garden-culture seems neglected; we observed finochia planted in trenches, in the manner of celery, in order to be blanched by earthing up, as practised in Italy.

In the kitchen-garden, celery is already planted out. In the orchard the strawberries are in bloom, and in some places beginning to suffer from the dry weather. The peaches, and other wall fruit, have set well; partly by having been protected by a wooden copping, and partly in consequence of the application of canvass netting. In the flower garden, some phloxes, pæonies, narcissi, Muscaria comosa and monstrosus, some tulips, wall-flowers, and stocks, and a few border perennials, are the chief articles in flower. A number of the pæony blossoms having been fecundated by art, are tied up in gauze to exclude bees and other insects. In the orchard some strawberries are similarly treated.

In the arboretum nothing struck us as deserving particular remark, unless it be worth while to express our regret, that the turf is formed of a mixture of grass seeds in which cock's foot, Dactylus glomerata, is conspicuous; being a much coarser and rapider growing grass than any other species, it is the very worst that can be fixed on for the purpose of a lawn. We presume it must have been mixed with the other grass seeds inadvertently; but, whatever has been the cause of its introduction, it ought be immediately rooted out.

We cannot leave this garden, without paying a tribute of approbation to the young men employed in it; their decent appearance, their dress and linen, compared with their wages, is at once an index to their morality. The number of such young men is nearly forty, and we cannot help thinking that a very important addition to the horticultural establishment would be a school, in which, for a small consideration, all who chose might go through a regular course of education. We are convinced this would ultimately do more for horticulture than almost all the other plans for its progress put together; but in the mean time it need not supersede other good plans for the same purpose.

Art. VI. *Flower Shows.*

It was our intention to have given an account in this Number of the principal meetings held by florists in the neighbourhood of London, for the exhibition of what are called florists' flowers; but after having put some of our friends to a good deal of trouble, we find, that to give the names of all the flowers for which prizes were awarded would occupy more space than we could possibly spare. We beg leave, therefore, to apologise for the trouble we have given our friends, and especially Mr. Groom, Mr. Greig, Mr. Robert Mackay, Mr. Davey, and Mr. Lawrance, near London; and Mr. Saul of Lancaster; and to limit our record to the dates of a few of the principal shows or feasts, with the name of the flower which obtained the first prize, and its owner.

The Islington or Canonbury Auricula Show was held on the 18th of April. The first prize was taken by Francis Cowper, Esq., for Britannia, and the Lancashire Hero.

Extract from a communication by Mr. Greig, the Secretary to the Islington Florists' Society.

" *The Islington Florists' Society* is of comparatively ancient date, and may truly be termed the parent Society of all others that have of late been established in the vicinity of the metropolis. At its first formation, which, I believe, was about fifty years ago, the meetings of the Society were held at the Barley Mow, an old and respectable public house, situated in the parish of Islington, on the side of one of the old pack-horse roads, leading from Blackwell Hall, in the city, to the north of England; and now called Troy Lane. They were afterwards held at the Britannia tavern, where you may, I think, still find a copy (framed) of the ancient rules and regulations of the Society. Some little dispute having occured at this tavern, the Society was in a great degree remodelled, the rules and regulations simplified, and its meetings removed to Canonbury tavern, but latterly they have been held at the King's Head tavern, opposite the church.

"The shows of flowers at this Society consist of auriculas and carnations, and the prizes are adjudged under the regulations (of which I hand you a copy) to the best flowers, the first prize being a silver cup, of the value of five guineas. The Society has always been supported by many amateur growers, and, generally speaking, (their enthusiastic fondness for the flowers inducing the greatest care in the growth of them,) they have borne away the prize from the regular dealer.

"I feel assured, Sir, that you will lend a willing aid in promoting the growth of the finest flowers; and it being a maxim amongst florists, that exhibitions of them for prizes create emulation in their production, you, I hope, will give me leave to trespass upon your valuable pages, for a small additional space, to say, that this feeling so predominates with several members of this Society, as to induce them (through me) to request of you to offer this challenge to the florist world. That each member will, on a day in July next, to be agreed upon, shew a pan of carnations, consisting of twelve blooms, the produce of their own gardens, (and according with the rules of the Islington Society,) against the same number of gentlemen from any part of the kingdom, for any sum not exceeding 100*l.* The house for the show to be agreed on, and the censors appointed, prior to the time of showing. Wishing you every success in your valuable undertaking,

" *Upper Paradise-house, Islington,* "I am, dear Sir, &c.
" *May 26th,* 1826. "Jno. Greig."

The Windsor Florists' Show was held on the 19th of April, and the first prize taken by Mr. Brown, for Barlow's king.

The Hammersmith Auricula Show was held April the 19th. The first prize was taken by Mr. Willmore for Metcalf's Hero.

Chelsea Auricula Show was held on the 20th of April. The first prize was taken by Mr. Cheese of Milbank for Grimes's Privateer.

The Dulwich Auricula Show was held April 24th. The first prize was taken by Mr. Goldham, for Grimes's Privateer.

The Newington Auricula Show was held on April the 26th. The first prize was taken by Mr. Goldham, for Grimes's Privateer.

The Lancaster Auricula Show was held on the 26th April. The first prize was taken by William Leighton, Esquire, for Booth's Freedom. At the flower-shows here, green-house and hardy plants, fruits, and culinary vegetables, are exhibited; the premium for the best dish of potatoes was awarded to Lady Houghton, and for the best pine-apple to Mrs. Parker.

Tulips are not generally gathered and shown in competition in the neighbourhood of London, though they are in Lancashire, and other parts of the country, and have been occasionally so near the metropolis. The practice of florists with respect to this flower, is to appoint particular days to visit celebrated collections. A number of connoisseurs then assemble, compare, criticise, exchange, and purchase, and afterwards dine together, &c.

Among the principal Tulip-beds in the Neighbourhood of London are the following; Mr. Groom's at Walworth, 150 feet long, and 4 broad; Mr. Strong's, Brook-Green; Mr. Lawrence's, Hampton; Mr. Weltjie's, Hammersmith; Mr. Austin's, Upper Clapton; Mr. Cheese's, Milbank; Mr. Davey's, King's Road; Messrs. Goldham's, Greig's, Edie's, Brook's, Mortlock's, Franklin's and Mrs. Gable's, Islington; Mr. Brown's, Slow; Mr. Wheatman's, Windsor; Mr. Bartlet's and Mr. Pyle's, Bethnal Green; Mr. Hoggart's, Lower Tooting; Mr. Smith and Mr. Jeffery's, Rotherhithe; and our correspondent, Mr. Burnard's, at Holloway. There are, doubtless, a number of others of which we have not been informed. With regard to the order in which we have enumerated those above, it has little or no relation to their merits; a few of them we have seen; the other names we have heard of, and the whole we have put down as they occurred to our recollection.

Lawrence's Tulip-bed at Hampton, we viewed on the 11th of May. The collection here is said to be one of the most select in the neighbourhood of London. This was a feast-day, and we found a number of connoisseurs, amateurs, and men of leisure, among the last, the Duke of Clarence, inspecting and admiring them. Louis XVI. and General Washington had "come the finest," as the phrase is, of the old flowers. On the 15th we again saw the bed, and Polyphemus, the rarest and most valuable tulip in the bed, was then in perfection. It is a bizard, was broken by Mr. Lawrence, and four bulbs were sold a few years ago for 50 guineas.

Mr. Goldham's bed, Mr. Greig's, and Mr. Burnard's, we viewed on the 20th, and Mr. Davey's on the 23d of May; Mr. Goldham had just been offered 100*l.* for Louis XVI.; this gentleman has raised a number of good carnations.

The Lancaster Tulip Show was held May 22. The first prize was taken by Miss Dalton, for a black Baguètte, and the second by the same lady, for Dolittle. The finest geranium was presented by Mrs. Crossfield; the finest green-house plant, Elichrysum filiforme, by Mr. Kerr; the finest herbaceous plant, Iris susiana, by Mr. Conolly, and the finest head of brocoli by Mr. Hargreaves. We regret we cannot insert the elaborate account of this show sent us by our valued correspondent, Mr. Saul; by which it appears, that 58 prizes were given away to about 25 different individuals, on the above day; a proof how generally the taste for flowers and for gardening exists in Lancaster.

Art. VII. Covent Garden Market.

April 4th. An abundant supply of broccoli from 1*s.* to 5*s.* per dish; cucumbers from 4*s.* to 5*s.* per brace; French-beans from 3*s.* to 4*s.* per hundred; onions 7*s.* per bushel; asparagus, 8*s.* and 10*s.* per hundred; sea-cale 6*s.* per hundred; grapes from 24*s.* to 30*s.* per lb.; strawberries 2*s.* per oz.; table apples 24*s.* per bushel; kitchen ditto from 10*s.* to 15*s.* A plentiful supply of Spring flowers and common evergreens, with some forced rhododendrons, roses, pinks, &c.

April 18th. An abundant supply of all the vegetables common at this season of the year. Broccoli from 1*s.* to 2*s.* per bundle; young cabbages 2*s.* to 3*s.* per dozen; asparagus 5*s.* 6*d.* to 7*s.* per hundred; young potatoes from 2*s.* 6*d.* to 4*s.* per lb.; cucumbers 5*s.* to 6*s.* per brace; grapes 20*s.* to 24*s.* per lb.; strawberries 1*s.* 6*d.* per oz. There were still a few pears and apples for sale; of the former we observed, the Colmar, St. Germain, Bonchretien, and Double Fleurs, of the latter the French crab, stone-pippin, nonpareil, &c. Great profusion of pinks, tulips, hyacinthus, narcissus and other flowers, forced and unforced.

May 2. Abundance of tart gooseberries evidently much injured by the late frosts; they sold at the rate of 1*s.* per pottle; young cabbages from 1*s.* 9*d.* to 2*s.* per dozen; asparagus from 4*s.* 6*d.* to 7*s.* per hundred; young potatoes 1*s.* 6*d.* to 2*s.* per lb.; cucumbers from 2*s.* to 3*s.* per brace; strawberries 1*s.* 6*d.* per oz.; grapes from 14*s.* to 18*s.* per lb.

May 16*th.* A good supply of forced and unforced vegetables in the market, and likewise of forced fruits; young potatoes 1*s.* 6*d.* per lb.; cabbages 1*s.* 9*d.* per dozen; asparagus 4*s.* 6*d.* to 5*s.* 6*d.* per hundred; broccoli, which is getting scarce, from 2*s.* to 4*s.* 6*d.*; tart gooseberries 2*s.* 8*d.* per gallon; cucumbers from 1*s.* 6*d.* to 2*s.* per brace; young peas 30*s.* per quart; grapes 12*s.* per lb.; strawberries 1*s.* 6*d.* per oz.; cherries from 12*s.* to 16*s.* per lb. Abundance of flowers and flowering shrubs.

June 3. Potatoes from 3*s.* to 7*s.* per cwt, which is about from 1*s.* 10*d.* to 3*s.* 9*d.* per Winchester bushel; cabbages from 4½*d.* to 1*s.*; and cauliflowers from 4*s.* to 16*s.* per dozen heads; horse-radish from 2*s.* to 4*s.*; broccoli from 8*d.* to 2*s.*; asparagus from 1*s.* to 8*s.*; and celery from 10*d.* to 1*s.* 6*d.* per bundle; young carrots from 5*s.* to 12*s.*; turnips from 3*s.* to 6*s.*; coleworts, or greens, unmarketable; onions from 9*d.* to 2*s.*; leeks from 10*d.* to 1*s.* 4*d.* per dozen bunches; radishes from 3*d.* to 6*d.* per dozen hands; coss lettuces from 6*d.* to 1*s.* per score; green gooseberries from 2*s.* to 4*s.* 6*d.*; green currants from 3*s.* to 7*s.*; spinage from 6*d.* to 10*d.* per half sieve, about one-third of a bushel; sound sweet oranges from 5*s.* to 14*s.*; lemons from 5*s.* to 12*s.* per 100; or, the former from 3*l.* to 4*l.* 10*s.*; the latter from 3*l.* to 4*l.* per chest of two boxes; Spanish chesnuts from 8*s.* to 12*s.*; French chesnuts from 5*s.* to 10*s.*; Spanish hazel-nuts from 5*s.* to 8*s.*; French walnuts from 4*s.* to 10*s.* per peck; new potatoes from 6*d.* to 1*s.* 6*d.*; cherries from 12*s.* to 18*s.* per lb.; forced strawberries from 6*d.* to 9*d.* per thumb, about an ounce; natural strawberries from 5*s.* to 6*s.* per quart; green peas from 3*s.* 6*d.* to 5*s.* per peck; French beans from 3*s.* to 4*s.* per 100. — Prices of foreign fruit, old potatoes (these next to nominal), asparagus, and horse-radish, stationary; those of almost every thing else from 20 to 40 per cent. lower than on this day se'nnight. Supply abundant, and trade more brisk than could have been reasonably expected. Silkworms 4*d.* to 1*s.* per dozen, according to their size; garden snails 1*s.* per dozen; gold-fish 5*s.* to 7*s.* per brace; English frogs 1*d.* each; snakes 4*d.* each; leeches 10*s.* to 20*s.* per hundred.

ART. VIII. *Calls at the London Nurseries, and other Suburban Gardens.*

Sion-House, April 10th. This place, so long neglected or mismanaged, is at last likely to be restored to its characteristic dignity and beauty. Mr. Forrest, who so highly distinguished himself in laying out the grounds at Eaton-Hall, having just been engaged as head manager here. There are few old places where there is so much to do as at Sion, but there are few also where so much effect may be produced by judicious doings. The kitchen-garden requires to be entirely renovated, including even the soil of the borders, the walls, the walks, and the hot-houses. The pleasure-ground, so rich in exotics, and so incumbered and injured by the commonest trees and shrubs, requires to have the latter entirely removed, to give room and effect to the former; and to render this scenery complete, a great number of new exotics, introduced since Sion was planted, now upwards of half a century ago, require to be added. There are few gardeners more competent to effect all this than Mr. Forrest, and if he obtain a reasonable share of liberty, and is not limited in expence, we may look forward to something which will restore this fine old place to its ancient celebrity.

Bayswater Garden, Comte de Vandes, April 12th. A magnificent specimen of Glycine sinensis is in flower in the green-house; each raceme is as large as a bunch of grapes, of a delicate pale purple at the shoulders of the bunch, where the blossom is fully expanded, and of a dark purple at the pendant extremities, where the floowers are not yet opened. Numerous species of acacias are in full bloom, and also polygalas, correas, heaths, brachysema, cytisus, boronia, &c. Mr. Campbell has been very successful in blooming hyacinths, of sorts that for upwards of seven years have been grown in this garden; a large bed of blues, reds, and double whites are now in perfection, and to all appearance as strong as if the bulbs had been newly imported. The borders here are remarkably well stocked with herbaceous plants and standard roses; among the latter are some of the most magnificent specimens in the neighbourhood of London. The whole is kept in excellent order; and this garden, for many years celebrated for its beautiful collection, was never better worth seeing than it is at present. Perhaps more new plants have been published in botanical works as having first flowered here, than in any private garden round London.

Walworth Florists' Garden, Mr. Groom, April 17th. This establishment is wholly devoted to the culture of florists' flowers, and though the department of floriculture is not now so fashionable as it was in the time of Mr. Madocks, the founder of this garden, and the author of the Florists' Directory, it is still a good deal encouraged. The purchasers of florists' flowers are quite a different class of persons from the purchasers of rare and curious species, or what, for the sake of distinction, we may call botanists' plants. They are chiefly tradesmen, and, in part, even operative manufacturers and mechanics. All these form a distinct class of flower-fanciers, and are as much occupied by the artificial properties and high-sounding names of auriculas, tulips, and carnations, as botanists are with the generic and specific distinctions of science. The grand object of the flower-fancier is to gain a prize at some of the flower-shows which are held in different places about London, at the period when auriculas, tulips, and carnations are in bloom. The four principal shows are held at Islington, Dulwich, Hammersmith, and Chelsea, and generally on or about the end of April for auriculas, the end of May for tulips, and the end of July for carnations. We intend in future to give short notices of these shows, in the hope of extending this department among gentlemen's gardeners, by whom, we think, florists' flowers are at present too much neglected. For example, at the present time, what parterre in any country residence can display 100 sorts of early dwarf tulips, all in bloom together, producing an effect, that for brilliance of colour cannot be surpassed in the vegetable kingdom? How few gentlemen's seats can boast a fine stage of auriculas or carnations; the last flower highly desirable, as combining both beauty and fragance. The culture of bulbs in general, is at present too much neglected by country gardeners, probably because at the season when they come into bloom, families are generally in their metropolitan residences.

Mr. Groom is an enthusiastic florist, and no man is more liberal in explaining the canons of floral criticism, and even the secrets of the art, to the uninitiated. The first thing he pointed out in walking round with us, was his collection of auriculas in pots in a common hot-bed frame; Mr. G. made out a list of above thirty fine sorts which had flowered this season in greater vigour than usual. We regret want of room prevents us from printing the names.

There is here a large supply of the night-smelling stock, which, Mr. Groom says, begins to diffuse its odour at six o'clock in the evening and leaves off at six in the morning, whether in the open air, under glass, or in a room. Mr. G. has in vain tried to render it odoriferous in the daytime, by placing it in a humid atmosphere, and also in a darkened place. A fine new variety of Viola tricolor raised by Mr. Groom attracted our attention; the flower is not so large as some varieties, but is of a darker purple velvet than any of them. Many plants of Pyrus spectabilis, in pots in full bloom, are very handsome; and in the green-houses are some good varieties of camellia and erica, and a considerable stock of geraniæ.

The next grand feature, at present in this garden, is, the collection of early dwarf tulips, single and double. Of the former Mr. G. has upwards of 150 sorts, and 100 at least are now fully expanded, and very brilliant.

The double tulips are rather later than the single ones; of *thirty sorts* which are here, about a dozen were fully expanded, including Tournesol panachée and Marriage de ma fille, which are two of the largest and most showy flowers.

There is an immense stock of late tulips of very vigorous growth, but we shall return to see them when they are in bloom. There is a good collection of crown imperials; and the double red, double yellow, crown upon crown, and gold striped, were in great vigour. Various very curious sorts of fritillary were in flower, but less vigorous in growth than usual. Mr. G. has left off growing hyacinths, which, he allows, can be better grown by the Dutch. He frequently visits Holland, and has even gone so far as to import soil from the florists' gardens there, for the *purpose* of trying experiments.

Among the miscellaniæ of the garden, we may notice a formidable fence (*fig.* 65.), which Mr. Groom has made by plashing a tall regularly cut hedge en masse, so as to make it hang over a deep and wide ditch at nearly a right angle. The fallen part of the hedge is in a

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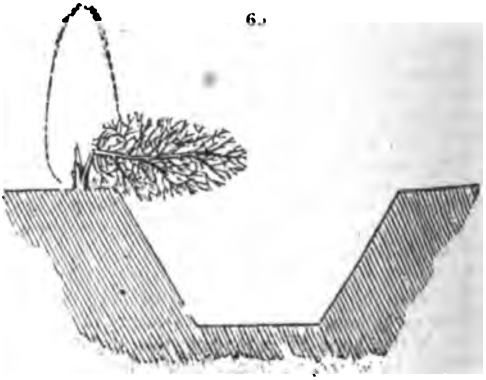

growing state, as well as the stumps. Various fruit trees have been deprived of their outer bark, headed down, ringed, and treated with Mr. Forsyth's composition, all with the usual success. There is a Mammoth apple-tree, which produces very large fruit, and some others, on which he has grafted all the different sorts he could procure. The American blight has cankered most of the apple-trees, but has done very little injury to the pears, though intermixed with them, a proof, as our correspondent Rusticus observes, (*p.* 153.) that the pear will thrive in a worse soil than the apple. Mr. G. unties his espalier trees in winter, when he prunes them, and leaves their branches dangling about loose till the blossom is set. Their being loose, he considers as promoting the last object, by allowing them to be shaken by the wind. A tank and pump have been recently formed for collecting and containing the drainings of the dung and compost ground, with which the ranunculus beds are watered. A great breadth of ground is covered with the last named flower and with the anemone, both just emerging from the soil. Mr. G. always plants these flowers in spring, but the tulips and most others in October and November. The latter and hyacinths are quite hardy, but anemones, ranunculuses, and most sorts of polyanthus narcissus require to be covered with rotten tan, or litter, to protect them from the frost.

May 19th. The single tulips are now in full bloom, and this day happening to be fine, Mr. Groom's bed of a 130 feet long and 4 feet broad presented by far the most magnificent spectacle of the kind we ever saw. We are persuaded that very few of the wealthy amateurs of gardening have seen such a sight, otherwise the culture of tulips would be more general. This bed consists of upwards of 200 sorts, in seven rows viewed lengthways, and in rows across at six inches apart; for the names we must refer to Mr. Groom's printed catalogue, not having room to insert the list of select sorts obligingly furnished us by him.

Pantheon, Regent's Park, April 27. This immense building, corresponding in figure with that of the same name in Rome, is preparing for exhibiting Mr. Hornor's Panorama of London, which of itself is an astonishing undertaking; but coupled as it will be with this immense building, and the objects and contrivances within and around it, will surpass all that has hitherto been done in panoramic exhibition in this or any country. The ground around the edifice is now being planted under the direction of Mr. Mackay, of Clapton, and it affords even in its present incomplete state, a striking example of what may be done by selection of large plants, and especially of ever-greens. There are variegated hollies here 15 feet high, and rhododendrons nearly as many feet in diameter, and laurels, yews, box, &c. proportionately large. They have been selected from all the nurseries from within 20 and 30 miles of London, and from the American ground at Wanstead-house, which supplied the immense rhododendrons mentioned, of more than 30 years' growth. The plants were carefully taken up with balls, and put in baskets of suitable size, and in that state conveyed to the pit in which they were planted. In some cases the plants were planted with the basket entire, to admit, if need should require, of lifting them in the course of the summer to fill up blanks from death, or to facilitate alterations; in others the sides of the baskets were cut away and the bottom left; and from the smaller plants the baskets were wholly removed. Every tree or shrub planted was set in puddle, or fixed by water. (*Encycl. of Gard.* § 2096, 2097), and properly staked. The kinds were planted in masses, especially the shrubs; and the deciduous trees, which are but few in proportion to the evergreens, are planted from 3 & 4 to a dozen in a hole, as suggested by Mr. Price, and adopted by Mr. Repton, Mr. D. Stewart, and others. This at once produces an effect different from that of a young plantation, and gives something of the idea of stools of coppicewood. It would be premature to speak of the design of these plantations, because it is not yet fully developed; but we cannot withhold our warmest approbation of the liberality and taste displayed by Mr. Hornor in the choice of his plants, and the extraordinary expedients and care employed by Mr. Mackay and his superintendant Mr. Kerr, in taking them up and removing them; then in planting them, securing them, and almost daily watering them.

Kew Gardens, May 22. The new entrance which we noticed in our last (p. 223.) has been planted in a very tasteful manner, under the direction of Mr. Begbie, who has here evinced a just relish for the picturesque disposition of objects. This taste is not common either amongst cultivators or botanists; the studies of both leading to the consideration of objects individually, rather than collectively, or with regard to effect of light and shade, exposure and concealment, &c. A dozen of trees or shrubs, planted on a lawn, show at once whether the planter is a cultivator or a painter. The botanical portion of the pleasure-ground is now in a state of great beauty, and affords a good specimen of what may be effected, on a few acres of level ground, by trees and shrubs, smooth turf, and gravel walks, without either water, architectural objects, or distant view.

The Systematic Garden is, in general, in a thriving state, and in good order. It is to be regretted that these valuable qualities are greatly lessened in effect by the obvious want of plan and arrangement, and the disposition of the hot-houses and walks. The former stand like cattle in a market-place, and the latter are unstudied lines of communication, created by the necessities of the place, entering behind, as in the Horticultural Society's garden, so that the principal object in the first view is the back sheds; which sheds meet the eye in walking through the garden, fully as often as the glass fronts, to which they are subservient. Taking a view of our public gardens, and national works in general, plan or method seems a less conspicuous quality than profusion in the details; a circumstance which probably arises from our wealth; method being most resorted to by those who have least to methodise.

The late frosts had injured several plants here, as at other places; but Araucaria imbricata is untouched, and Photinea glabra promises to be an addition to our hardy evergreens. Nothing struck us as very remarkable among the herbaceous plants; in the green-house the following rare species were pointed out to us: Anthocercis littoria, viscosa, and albicans, Mirbellia decussata, Prostranthera violacea, Hibertia nova sp., Patersonia sp., Beaufortia nova sp., Polygala nova sp., Gompholobium sp.

A plant of Cyclopia genistoidea had been planted out in front of a stove about a year ago, and protected during winter with a mat; it has grown nearly ten feet high, and is now splendidly in flower.

In the palm-house, some of the plants are suffering for want of room, and one cannot help regretting that a suitable situation is not formed for this noble order of plants. There is abundant space in the pleasure-ground here for a few acres of glass roof, which, as we have elsewhere observed, (Encyc. of Gard. § 6179.) might be supported by iron columns, at any height from the ground, heated by steam, and watered by perforated pipes in Loddiges' manner; the interior might be laid out in walks, turf, water, and seats, decorated with sculpture, and enlivened by foreign birds. There might be several climates, so as to include the whole of the plants at present kept under glass. In the present day, when such immense sums are laid out on public improvements, enough might be spared to cover ten acres in this way, and surely the effect produced would be worth the expence.

In one of the hot-houses, Menyanthus indicus, and Nymphea cœrulea, are profusely in bloom, and Pontaderia crasipes, a rare plant, from Guiana, and Cyperus elegans, a new species, from Trinidad, are growing freely; the former might soon be multiplied to any extent. The plants in this hot-house are in excellent order.

On the kitchen garden, we have little to remark; but cannot help approving of the plan adopted here, of not growing any crop whatever on the fruit tree borders. They are not even dug, but every weed cut up as it appears, and a surface dressing of rotten dung occasionally applied to supply nourishment, retain moisture, and prevent the surface from becoming indurated. This practice deserves imitation.

In the culinary hot-houses, things look as well as when we last reported.

ART. IX. *Architecture.*

Architectural Improvement. We invite artists of leisure and taste to furnish us with sketches, accompanied by a word or two of description, of such novelties in their art as are applicable to the country. Plans and elevations of cottages, entrance-lodges, with the dimensions of the rooms; different descriptions of walls for fences and gardens; gateways, and gates, fences, bridges, and architectural chimney-tops, will be very acceptable. Our grand object is to improve the forms and arrangement of the commonest things, and introduce taste into every day objects. The lodges now erecting in Hyde Park, from the designs of W. D. Burton, are good examples in many respects, and particularly in that of being handsome in every front, and having the kitchen-yard sunk so as not to be in the slightest degree offensive. There is not one of these lodges that might not, at a very short distance, pass for an ornamental building in a pleasure-ground. The prevailing error in almost every description of building erected in the suburbs of London is, that on the side of the building which is considered as front, such expence and taste as can be afforded is exclusively displayed, while the three other sides are completely neglected, both in regard to design, and the material employed. But wherever a house is in any degree detached, what are called the sides and back are seen just as much, and as frequently as the front; at least, the front and one side are always seen together. The master art, in rural architecture, is to make all the sides of a house beautiful, and to avoid as much as possible the appearance of what are called backsides, which are disagreeable seen at a distance, and near at hand display the slovenliness and disorder of kitchen and other domestic appendages. Subjected to judicious design, they would render the back of every house as handsome as the front. In natural objects there is no backside; every part is beautiful after its kind. Few suburban builders, however, are in the habit of considering the effect of objects in perspective, and a large, or small country house, is too often with them merely a slice from a smaller or larger row of houses from a London street.

ART. X. *Domestic Economy.*

The following valuable receipts have been procured for us by Mr. John Anderson, F.H.S., Gardener to the Earl of Essex at Canterbury, from an eminent French cook, lately in the Earl's service.

Tomata Sauce for Cold Meat. Boil tomatas when ripe, rub them through a Tamy cloth, to every quart of pulp add ½ ounce of garlic and 1 ounce of shallots, salt to taste, boil ½ hour, strain out the garlic; add to every quart, half a pint of common vinegar, and a wine glass full of Chili do.; let it stand a day or two before corking.

Potted Tomatas. Reduce your tomatas over the fire, till they are quite thick, stirring all the time to keep them from burning; rub them through a tamy, put them again into your stew-pan, with an equal quantity of glaze, and reduce again over a sharp fire, till you think the whole will be quite firm when cold (or like glaze); put them into a white earthen pot; when cold, cover them with writing-paper dipped in brandy; pour over some warm hogs' lard, and cover all over with a bladder tied quite tight; a small piece added to a little gravy or melted butter will make an excellent sauce for cutlets or chops.

Tomatas quite plain. Reduce as before, only be more careful in evaporating the water from them, rub them through a tamy, put them when cold into fruit bottles; they must be corked very tight, and tied down; put the bottles nearly up to the cork into cold water. over a gentle fire, till they boil, then set them on one side till cold, take them out and dip the cork in good cement of bees-wax, rosin, &c.

This may be used in making sauce for cold meat, or as above, by adding strong gravy. It is intended, of course, to save the glaze.

Tomatas with Gravy. This is simply stewing your tomatas in a little good gravy, till quite tender, keeping them whole, drain them on a sieve, dish them up, and pour a little half glaze, and a tea-spoonful of vinegar mixed with it, quite hot, over them.

Tomatas may likewise be put into vinegar as a pickle.

Towit of Tomatas. Take a pint of the tomatas, add a pound of fine sugar, reduce it in the same way as a jam, add the juice of a lemon; this makes a very good towit.

Tomatas as dried Fruit. The pulp may be reduced; say a pint with a pound of fine sugar, till quite stiff; pour it on your tin; it must be dried in a stove; when nearly dry, cut it into what shape you please, it does for ornament in the dessert.

Art. XI. *Cottage Economy.*

Under this head we mean to include such notices as we consider will be useful to the lowest classes of housekeepers, and to the cultivators of cottage gardens. We invite the gardeners of country gentlemen to send us hints for this department, and to contribute, as far as opportunity and the consent of their employers permits, to the increase of the comforts and ornaments of their cottage gardens in the neighbourhood, by distributing such seeds and plants as they know are suitable. We also invite our female readers to contribute hints for the in-door economy of cottagers. We particularly wish to be able to furnish some improved plans and elevations of cottages, for which, especially in Scotland and Ireland, there is the greatest necessity. We invite young architects to turn their attention to the subject, and send us something at once commodious and handsome; something better than those square two-celled boxes, which are often set down as lodges; or the miserable sheds that are sometimes fitted up as gardeners' dwellings. In the present exhibition of architectural drawings in Somerset-house there are abundance of palaces and villas, but not a single labourer's cottage; plenty of impracticable and extravagant ideas, but a great want of "common objects, improved by genius, art, and taste."

It has been suggested to us, that pastors of congregations might materially assist us in this part of our labours; we earnestly invite clergymen of every denomination to do so, both among their flocks, and by sending us such hints as may suggest themselves; and not the least useful will be "hints for the moral conduct of cottagers." Want of room prevents us from saying more at present.

ART. XII. *Hints for Experiments.*

Walls of Compressed Earth. In Mr. Gibbs's nursery, Brompton, the walls of a small house or cottage are built of blocks of compressed loam, about three times the size of common bricks, and laid in thin clayey mud, as mortar. This building was erected under the direction of Monsieur Cointereaux, a French architect, and the patentee in that country of the invention. M. C. was brought over, and the building erected, at the expence of the Board of Agriculture. For particular purposes, such as cottages, sheds, cottage-garden walls, &c., this mode of building will be found to succeed perfectly; but unless a considerable extent was to be erected, the trouble and expence of teaching labourers to execute it, would, probably, be greater than the profit. Walls of this sort, however, placed upon brick or stone foundations, and well protected by projecting roofs or copings, will, doubtless, endure a great length of time; and as cottage walls, being greater non-conductors than brick or stone, they will be found warmer in winter, and cooler in summer. Were a great extent of this sort of walling to be done, instead of the clumsy mode of forming the blocks, by raising and lowering a weight, in the way piles are driven, a machine might be easily contrived, by an arrangement of levers, like Ruthven's printing-press; or with Bramah's press, as recently improved, so as to compress the earth-bricks to any extent, and much faster, and with much less trouble, than by the French method. We noticed this mode of building in our Encyclopedia of Agriculture (§. 2849.), but were not then so impressed with the perfection to which it may attain, or the uses to which it may be applied, as we have been since examining the specimen at Brompton, and conversing with Mr. Gibbs. By the use of Bramah's press, which will squeeze a deal board to the thickness of drawing-paper in half a minute, the loam blocks may be rendered as hard as ordinary free-stone, and, probably, coping-stones might be formed of the same material, and rendered water-proof by dipping in gas liquor, or washing over with sand and pitch, thin Roman cement, or by some other simple process. We recommend the subject to proprietors about to build any extent of walls or cottages, and to emigrants.

Heating Hothouses by Gas. We should be glad if such of our readers as have an opportunity, would make some experiments, with a view to ascertaining how far the temperature of a greenhouse might be kept up by the consumption of a jet or jets of gas, under a cover of earthenware or iron, placed within the house; we know of no objection to it but the expence, and, probably, that might not be an objection, when the first cost of furnaces and flues, their repair, fuel, attendance, &c., are taken into consideration.

ART. XIII. *Education of Gardeners.*

OUR last notice on this subject hinted at the absolute necessity of every young man, who wished to rank above a common country labourer, "working out" his own intellectual education; and at present we shall only add, that every new occurrence among the operative classes of society, every new Mechanic's Institution, and there is hardly a week passes that there is not one established in some part of London, or of the country (See *The Atlas Sunday Newspaper for June* 11.), renders this necessity the more imperious. While all other orders of the laborious class of society are raising themselves, let it not be said, as a valued correspondent observes, that gardeners alone remain stationary. But our present purpose is to hint at the modes by which gardeners who are too old, or disinclined to, or incapable of much intellectual improvement, may benefit themselves; and these modes are two — by emigration, or by change of profession.

A healthy sober man can hardly fail of ultimately rendering himself independent, by emigrating to America, or Australasia, and engaging himself as a country labourer of all work; or better as a gardener. Van Dieman's island we consider the very best country to emigrate to in point of climate, it being as nearly as possible that of England. The country is already almost entirely occupied by Britons cultivating their own property. The price of labour will be high there for a long period, and a frugal day-labourer there might soon save as much as would enable him to make a small purchase. This he might improve and sell, and purchase again, and improve, &c. In North America the price of labour is equally high, but the Winters are long and severe, and the climate of some parts, as Carolina, unhealthy. New York is the most desirable city to emigrate, to in the first instance. (See *Kingdom on Emigration.*) Whoever intends to emigrate would find it greatly to his advantage to acquire some knowledge of carpentry, and common country masonry, and, in short, as many of the architectural arts as he could. Building with compressed earth in Cointereaux's manner, or *en pisé*, particularly merit attention. (*E. of G.* § 28. 49. *and G. Mag.* p. 357.)

The wages of a journeyman gardener will always be comparatively low for various reasons; but any gardener may become a tolerable bricklayer, field mason, hedge carpenter, or painter and glazier, in a month. He may not, perhaps, be able to undertake gauged arches, carved work, or graining; but he may become a sufficiently good workman to obtain nearly treble the wages of a journeyman gardener. Nothing can be more readily acquired than bricklaying, painting, and glazing; and while gardeners in the nurseries about London are getting 2*s.* and 2*s.* 6*d.* per day, journeymen in these trades are paid 5*s.* 6*d.* and 6*s.* Other occupations which a gardener may acquire will readily occur; but we do not recommend this mode; we would rather see emigration adopted; but should greatly prefer continuing in the original profession, and improving in it to the utmost. For this purpose, we conclude with three hints to young gardeners, — have no pleasures, — lose no time, — and concentrate your attention to whatever you take in hand.

ART. XIV. *Queries and Answers.*

Maclura aurantiaca of Nuttal, (*fig.* 64.) Diœcia Tetrandria, Lin.; and Urticeæ, Juss.

This interesting tree, of which there are several species, was first introduced to the gardens at St. Louis, on the Mississippi, from a village of the Osage Indians. From thence it was carried to the nursery of Mr. M'Mahon of Philadelphia, and afterwards, about 1818, seeds were sent to Lord Bagot in England by M. Correa de Serra. The trees at Philadelphia have reached their full size and bear the Winters there without injury. The tree in Lord Bagot's conservatory is upwards of six feet high; but it has not yet flowered. Lord Bagot presented one to A. B. Lambert, Esq., which is now growing at Boyton. There is not a doubt of its being as hardy as any common fruit tree.

64

"In its native wilds, the Maclura is conspicuous by showy fruit, in size and external appearance resembling the largest oranges. The leaves are of an oval form, with an undivided margin, and the upper surface of a smooth shining green; they are five or six inches long, and from two to three wide. The wood is of a yellowish colour, uncommonly fine and elastic, affording the material most used for bows by all the savages from the Mississippi to the Rocky Mountains. How far towards the north its use extends we have not been informed, but we have often seen it among the lower tribes of the Missouri, who procure it in trade from the Osages, and the Pawnees of Red River. The bark, fruit, &c. when wounded, discharges a copious milky juice, which soon dries on exposure, and is insoluble in water, containing, probably, like the milky juices of many of the urticeæ, a large intermixture of caoutchouc or gum elastic.

The fruit consists of radiating, somewhat woody fibres, terminating in a tuberculated and slightly papillose surface. In this fibrous mass are disseminated the seeds, which are nearly as large as those of a quince. The tree rises to the height of twenty-five or thirty feet, dividing near the ground into a number of long, slender, and flexuose branches. It inhabits deep and fertile soils in vallies. The Arkansa appears to be the northern limit of the range of the Maclura, and neither on that river, nor on the Canadian, does the tree, or the fruit, attain so considerable a size as in warmer latitudes. On many specimens of the fruit examined by Major Long, at the time of his visit to Red River, in 1817, several were found measuring five and a half inches in diameter." (*James's Expedition to the Rocky Mountains.*)

The following letter from Mr. Nuttal to A. B. Lambert, Esq., dated Liverpool, April 12, 1824, gives additional information respecting this tree. "I have herewith sent you the drawings of the Maclura, and have but little to add concerning it besides what is already before the public. I have, however, since that publication seen the male flowers with which I had been unacquainted. They are produced in partly sessile clusters, probaby twelve or more together in a very short raceme, and consist each of a four-parted greenish calyx, including three, but more commonly four stamens, about the length of, or a little exceeding, the calyx.

The trees often attain the height of sixty feet or upwards, having spreading branches, thickly clothed with a foliage of the most vivid and shining green. The flowers are very inconspicuous and nearly green, or with a slight tinge of yellow. The bark and fruit, on incision, gives out a milky sap; that of the fruit is aromatic, but not agreeable to the taste. Although found spontaneous and abundant on the immediate borders of Red River, I cannot learn that any individual has ever seen or tasted its ripe fruit. These, according to the report of Major Long, (See his Narrative, vol. ii. p. 158.) are quite as large as those of the Shaddock tree, yellow, and very beautiful to the eye; but in his opinion always unpleasant to the taste. As to their being juiceless (an assertion made by this narrator), the very appellation of Osage, *i. e.* orange, independent of my own testimony, ought to have qualified the contradiction. From two or three of the fruit which I described as seen growing in Mr. Choteau's garden at St. Louis, in 1810, I expressed about half a pint of a milky sweetish fluid, which, unlike most lactescent saps, quickly separated into a clear liquid, and a subsiding feculent matter, almost appearing like the action of coagulation in milk. I mention this fact, merely to show that the fruit is not hard and dry, as stated by Mr. James. Indeed, from all I can yet learn, the state of the ripe fruit is entirely unknown.

The wood is so completely like that of the Fustick (Morus tinctora) that it would be difficult to tell them apart; it is equally useful as a yellow die, and its strength recommends it to the natives for bows."

W. S writes, "I should be glad to be informed, through the medium of the Gardener's Magazine, the price and description of a botanical microscope sufficiently strong to examine the grasses, for I have always found them very difficult to examine by a small magnifying-glass; and I believe that there are a great many young gardeners, like myself, who have been prevented from enquiring into that valuable family of plants for want of proper instruments, and likewise deterred from getting them for want of being able to give a proper direction to some of their fellow-servants to get them in London, as they are seldom to be met with in the country."

One of the most complete botanical microscopes is that recommended by Dr. Hooker, of Glasgow, and sold by Jones, 30, Lower Holborn, London, at 5*l.*; and with dissecting knives, 6*l.* An improved botanical, or universal pocket microscope, sold by Jones, and by Bancks, 441, Strand, and others, costs 1*l.* 8*s.* A triple botanical magnifier, such as is used by practical botanists about London, and which we should think well adapted for our correspondent, is sold by Bancks for 9*s.* 6*d.*, and a double magnifier for 6*s.* 6*d.*

Hely Dutton, Esq., landscape gardener in Ireland, and author of some clever county surveys of that kingdom, writes, "I dare say you have seen Pontey's late work. Pray, is his frontispiece a specimen of English taste in water-works? If so, we are all groping in the dark." — *Mount Bellew, Castle Blakeney, May* 15, 1829.

Mr. *Dan. Stock* observes, "The bee orchis (Ophrys apifera) and the fly orchis (O. muscifera) are favourite plants of mine, and although I have frequently met with them, brought them home, and planted them both in pots and in the open ground, they have never again made their appearance, which, notwithstanding the opinion of many gardeners, must have been because they were not treated properly. I shall therefore be much obliged to you, or some of your correspondents, to inform me, through your Magazine, the mode of treatment most proper for preserving the above plants, and others of the same tribe; and particularly, whether in taking them from their native habitations, the mould ought or not to be cleared from the roots." — *Bungay, Suffolk, 29th April*, 1826.

G. S. writes, "It will be obliging if you, or any of your readers, give some information regarding a root called *cara*, in Brazil. In the first volume of the *Edinburgh Gazette*, (a work of six volumes) p. 597., there is the following observation.

"'Esculent plants grow in Brazil in great profusion and variety. A bulbous root called the *cara*, which grows to the size of about 5 inches diameter, is in great request; it is equal to the best potatoes, and *even more* farinaceous.'

"In your Number for January, p. 87., you mention the prangos, hay-plant, which is cultivated in Thibet, but the introduction of which into this country had failed, in consequence of the seeds having lost their vegetative power. I have seen it stated somewhere, that seeds put up in different parcels, and packed in *raw sugar*, retained their freshness for a great length of time, and were not subject to mould or insects, (No! see p. 335.) As we procure raw sugar from the East, rare seeds, put up in casks of sugar, would retain moisture and freshness for a year, and come to this country fit for depositing in the soil. It is much to be lamented, that naturalists and botanists do not attend to the rule of Horace, regarding the *utile cum dulce*; for they seem anxious, when they go to distant countries, to collect as many varieties and species as possible, and to extend or fill up the classes, genera, &c. &c., but we receive little or no information as to the *uses* and *application* of plants to the arts and sciences, or to domestic economy.

"Various *grasses*, I am convinced, might be introduced into cultivation in this country from distant climates. When on this subject, I may observe, that in Botany Bay, and Van Dieman's Land, the pastures are described to be remarkably open, and the grases do not there form a compact sward. As a remedy for this open state, white clover and the natural grasses should be sown, and rolled immediately, before moist and rainy weather. The pastures would then maintain three or four, or more sheep, per acre, instead of one, as is stated in the accounts from that quarter."

W. B. B. writes, "I beg to know, through the medium of your highly useful Magazine, if there is any remedy for a disease, which first made its appearance on a mayduke cherry, against a south wall, in the Spring of the last year, when every leaf on the tree fell off, though every remedy I could think of was used; such as smoking, brushing, and dusting the leaves with wood-ashes. Nearly every leaf had thousands of small black insects on it, and the wall was likewise quite black with them; they hurt the tree so much, that a part of it died, though it threw out a second crop of leaves after midsummer. The same tree is now covered with them, and the fruit is all blighted, falling off, and the leaves turning yellow. From every observation I can make, I am of opinion that watering increases the number of insects. Last year they were confined to one wall, but every Morella cherry against a north wall, and some standard trees, are infected; as are all the espalier and standard trees, in a new garden lately planted. I have regularly examined one young tree, which was cut back this Spring, and which is watered every day, and every insect picked off, or killed on the leaves, and yet every day there is a young brood to kill. I have likewise remarked, that where the insects are killed on a leaf, it turns yellow, and falls off after a short time. I have searched Forsyth, and other authors, but I cannot find that they mention it, nor is there any account of it in the first edition of your Encyclopedia. I beg to mention, that the walls in my gardens are of cob (earth), which do not bear washing as brick will."—*Sanctuary, Devonshire, June 7th,* 1826.

Has our correspondent tried lime-water (not lime and water), or weak tobacco-water?

Mrs. G. "would be glad to know the best way of destroying the spawn of frogs, and a great number of water-newts (Lacerta aquatica, Linn.) which abound in a small pond" in her orchard? We would suggest dissolving lime, at the rate of a pint to three gallons, and pouring the water into the pond till it took effect; or, salt applied in the same way, which will certainly kill every living thing in the pond. But it must be recollected, that if either salt or the powder of lime be thrown in undissolved, a much larger quantity will be required, as a considerable portion will fall to the bottom, sink in the mud, and not be dissolved and taken up by the water. To discover which is most effectual, take a glass of salt-water and a glass of lime-water, and put a newt and some frog spawn in each.

A. C. would be glad of information respecting the best mode of treating elm-trees, in cases where their bark is continually peeling off, and the cause; and whether Gas, or *gas-pipes*, conducted up their trunks, would be likely to affect them? —*April.*

W. B. writes, "having a great predilection for flowers, so abundant at this season, I should be happy if you could inform me, through the medium of your Magazine, if there be any better method for their preservation than the usual one of immersing the stalks in fresh water; for though this succeeds tolerably well in most cases, yet I find my moss-roses, and some other of my flowers, though I change the water daily, very soon fade. Perhaps the insertion of the above query in your next number, might afford an opportunity to some one of your numerous readers, of disclosing some peculiar method, by which the preservation of these much admired, but too fleeting beauties of Flora, may be prolonged. Probably enough has not yet been done in the way of experiment for the attainment of this object. —*Paddington, June* 17th. The duration of gathered flowers with their stalks in water, or wet sand, depends on the coolness and shade of the atmosphere in which they are placed. When they have begun to fade, they may be revived for an hour or two by substituting warm water for cold.

Art. XV. *Obituary.*

Died on the 20th April, Mr. William Gibson, many years head gardener to Henry Peters, Esq., of Betchworth Castle, near Dorking, Surrey. This worthy man fell by his own hands, while labouring under temporary mental derangement, brought on by a cause which deserves to be mentioned, as affording a lesson to gardeners, and all of us, not to be over ambitious of money, nor too eager to step out of our regular path in pursuit of it. Mr. Gibson had saved some property, and embarked it in the coal-trade, and recently not only lost it all, but involved some of his friends; or he supposed that this was the case, for we have since heard that it was not so. This idea preyed upon his mind to such a degree that he was unable to bear it. He sent word to his master that he could no longer remain in his service; and the messenger, on his return, found him prostrate on the floor of his cottage, with a pistol in his hand. "The feelings of the coroner's jury were strongly excited by the production of Mr. Peters's letter, which contained expressions not only in every way calculated to soothe the minp of the deceased under his calamity, but to assure him, in terms of marked feeling, of his master's future kindness and protection." — (*County Chron.*)

JOHN FORBES, A.L.S.

On the Tablet erected to the Memory of Mr. Forbes, *in Chiswick Church-yard, is the following inscription:—*

To the Memory of Mr. John Forbes, A.L.S., a botanical collector in the service of the Horticultural Society of London, who died at Senna, on the Zambazee river, in Eastern Africa, in the month of August, 1823, in the 23d year of his age. This tablet is erected by the Council of the Society, in testimony of their entire approbation of his conduct while in their service, and of their deep regret at the untimely fate of a naturalist of so much enterprise and promise.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

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THE
GARDENER'S MAGAZINE,
OCTOBER, 1826.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I. *Hints for the better Cultivation of the Cape Heaths, derived from Observation of their Nature, Soils, and Situations.* By Mr. JAMES BOWIE, Botanical Collector at the Cape.

Sir,

THE publication of the list, in your Magazine, of Professor Dunbar's extensive collection of Ericæ has induced me to offer the following hints for the better culture of that beautiful and extensive genus, and which I hope will merit your notice, as they are taken from actual observations that are inaccessible to most persons. I am the more anxious to press the subject for your consideration, as being myself particularly interested in the collecting of the Cape species; and can receive no greater pleasure than finding that the labours of the collectors are duly appreciated by attentive individual culture; while, on the other hand, nothing can be more mortifying than to observe a careless inattention evinced towards those objects, in the procuring of which the collector has risked his life, by encountering dangers and undergoing privations which but few persons can surmount.

I do not pretend to improve the practical gardener in the propagation of the genus by cuttings, as this mode of increase is well understood and practised in this country; seeds are, however, much preferable, as requiring less labour, and, in some species, forming flowering plants as soon as those from cuttings. The most general (and, I consider, the best) time that large collections of seeds of the Cape Ericæ arrive in this country are the months of July and August: from the beginning of the former till the end of the latter month, or perhaps later, is a favourable time for sowing them; they should not be sown thick, for, if the seeds are good, they are weakened by being close, and liable to injury by thinning them out in the seed-pots. Seeds of Ericæ I have known to vegetate well, after being twelve years in this country. The soil for the seeds should be rather sandy than boggy, and the pots well drained, to allow a free passage for the superabundance of water given during the winter months; though, until the seeds shall have vegetated, I do not consider any quantity of water detrimental. From various causes all the species do not vegetate at the same time; those which first come up should be separated from the rest and exposed to the air, and receive less water than those not yet up. The drier the plants are kept through the winter there is the less chance of their damping off, and they will be hardier and in a fitter state for potting early the following spring.

Soil for first potting off, -	sandy peat, ¾, sandy loam, ¼.
First shifting - -	sandy peat, ½, sandy loam, ½.
Second ditto, - -	sandy peat, ¼, sandy loam, ¾.
Third, and if possible final shifting,	sandy loam only.

To show the propriety of such treatment I have selected a few specific names from the above-mentioned list, (conceiving that they are more generally known,) and stated the nature of the soils and situations in which they are found in their native wilds, and trust that this will assist the intelligent cultivator to arrive at a perfection in their growth, and in prolonging their existence, hitherto rarely attained, but so much desired by most cultivators, who at present turn from Ericæ in despair, and content themselves by fostering less beautiful plants.

Ericæ do not like frequent shifting, nor do they long thrive in soil that is finely sifted; stones, or even broken fragments of garden pots, of one fourth to one half inch in diameter, seem beneficial to the health of Ericæ, while finely sifted soil consolidates into an unwholesome and stagnate mass, preventing the free passage of superfluous water.

1.	Linnæoides, tubiflora, colorans,	In running waters and springy grounds, a black vegetable soil.
2.	Albens, ampullacea, retorta, ardens, fastigiata, fascicularis,	Shattered sand-stone rocks, little or no soil, the roots embracing the stones in the crevices.
3.	Caffra, eriocephala, gelida, Halicacaba,	Similar situations as No. 2. but thrive more freely in the moist clefts, 3000 feet above the sea.

4.	Viscaria, Blærioides, viridiflora,	Decomposed sand-stone, shaded by Scirpoideæ, &c.
5.	Sebana, sexfaria, Plukenetiana, baccans,	Decomposed schistus, lower parts of the mountains and secondary hills, exposed to drought.
6.	Massoni, calycina, retorta, Walkeria, gracilis,	In pure sand, exposed to heat and drought on the mountains, from 2000 to 5000 feet above the sea level.
7.	Mammosa, metulæflora, cerinthoides, ignescens, grandiflora,	In sand on the lower plains, frequently on spots abounding in natron.
8.	Vestita, filamentosa, cerinthoides, cruenta, versicolor, triflora,	In loam with iron pyrites on the exposed plains and secondary mountains, enduring drought at times for several months.
9.	Urceolaris, persoluta, arborescens ?	Decomposed schistus, on the streams in deep shaded glens.
10.	Vestita, versicolor, discolor, hirta,	In stiff loam, and margins of woodlands, moist glens, &c. surrounded by various Pelargoniums, Scirpoideæ, &c.

E. cerinthoides is spread more extensively over the Cape colony than any other species; it thrives best in the most exposed situations.

The soils in which Nos. 1. and 4. are found, approach nearly to some of our bog soils, but not precisely so; so that, excepting Nos. 1. and 4. as above, no bog earth is wanting; it only serves to weaken the growth where a good sandy loam would strengthen it, and insure good flowering plants for years.

Fire heat, and a long confined atmosphere and smoke, are injurious to Ericæ; fresh air ought to be admitted freely, for although the finest species come from a warm country, yet they withstand several degrees of frost. Some green-house species will bear some British winters; always better if in a northern exposure.

I am, dear Sir, &c.

Kew, May 31. 1826. J. Bowie.

Mr. Bowie's information will probably lead to a revolution in the culture of heaths; and, by rendering it much more simple, less expensive, and less precarious, tend to the dissemination of one of the most elegant families of plants. Of what other genus can it be said that every species, without exception, is beautiful throughout the year, and at every period of its growth? — in flower or out of flower, and of every size and age? Suppose an individual had the penance imposed upon him of being forbidden to cultivate more than one genus of ornamental plants, is there a genus that he could make choice of at all to be compared to Erica? Perpetually green, perpetually in flower, of all colours, of all sizes, and of many shapes!

As a fit companion to Mr. Bowie's communication, and a standing testimony in favour of our own opinion of Erica, we insert a list which has been in preparation for us for the last twelve months by Messrs. Rollisson.—We request the attention of our readers also to the catalogue of hardy heaths at Tooting. Those who have no green-house may still grow a very fine assortment in beds or groups of moist sandy loam, or of loam and peat, out of doors. One of the finest heatheries of this sort is the Duke of Bedford's at Woburn, where, besides Ericæ, there are others of the same family, as Menziesia, &c. to the number of nearly 30 species, besides varieties.

Mr. Bowie, who is now at Kew, intends to return very shortly to the Cape of Good Hope, and resume his labour of collecting the various interesting specimens of natural history of that country. Although botanical collections were the objects of his former travels, yet he was not inattentive to other branches of natural history; and from the various observations he there made, hopes to be useful in his future researches to those professors who are anxious to form extensive collections for their cabinets. We hope to be favoured with occasional communications from him on heaths, Proteas, and other subjects connected with that interesting colony, and suited for the Gardener's Magazine. — *Cond.*

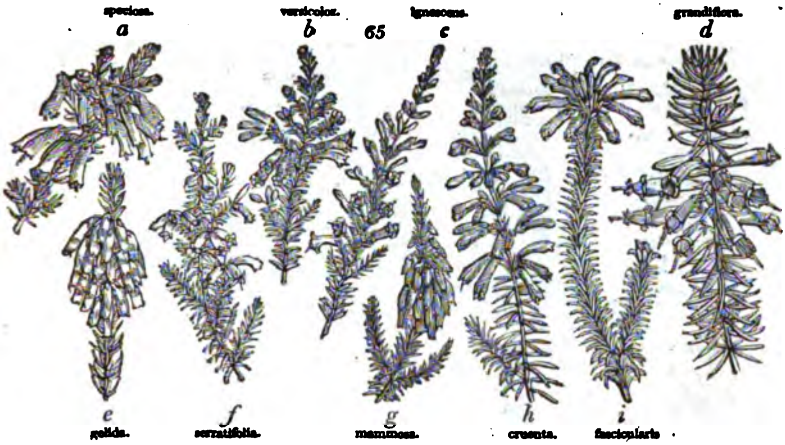
ART. II. *List of Cape Heaths which have been in Flower in the Tooting Nursery in each Month of the Year.* Communicated by Messrs. ROLLISSON, Nurserymen, Tooting.

Ericas flowering in January.

1. Absinthoides
2. Archeria (*fig.* 66. *c.*)
3. Arctata
4. Ardens (*fig.* 71. *b.*)
5. Aspera
6. Assurgens
7. Bandonia
8. Bruniades
9. Caffra
10. Calycina
11. Canaliculata
12. Carinata
13. Colorans (*fig.* 67. *c.*)
14. Comosa rubra
15. Concinna (*fig.* 67. *b.*)
16. Concolor superba
17. Cupressina
18. Decora (*fig.* 73. *c.*)
19. Denticulata
20. Exsurgens
21. Filamentosa (*fig.* 75. *g.*)
22. Flava
23. Floribunda (*fig.* 73. *j.*)
24. Formosa
25. Furfurosa
26. Gracilis
27. Grandinosa (*fig.* 72. *b.*)
28. Hirta
29. Ignescens (*fig.* 65. *c.*)
30. Imbricata
31. Lacticolor
32. Lambertia
33. Laxa
34. Leucanthera (*fig.* 74. *b.*)
35. Linnæoides
36. Longipedunculata (*fig.* 75. *b.*)
37. Lutea
38. Mammosa (*fig.* 65. *g.*)
39. Mucosa (*fig.* 73. *f.*)
40. Mutabilis
41. Ovalæflora
42. Pellucida
43. Pinea
44. Pinifolia
45. Præstans
46. Pubescens major
47. Pubescens minima
48. Pulchella
49. Radiata
50. Ramentacea (*fig.* 73. *a.*)
51. Regerminans
52. Retorta (*fig.* 68. *g.*)
53. Rollisson's blanda
54. Scabriuscula
55. Sebana aurantia

56. Sebana lutea
57. Serpyllifolia
58. Serratifolia
(*fig.* 65. *f.*)
59. Sessiliflora
60. Solandra
61. Sordida
62. Sparsa
63. Templea
64. Tenella
65. Transparens
66. Triceps
67. Triumphans
(*fig.* 70. *h.*)
68. Vernix
69. Vernix coccinea
70. Versicolor (*fig.* 65. *b.*)
71. Vestita purpurea
(*fig.* 67. *h.*)
72. Viridescens

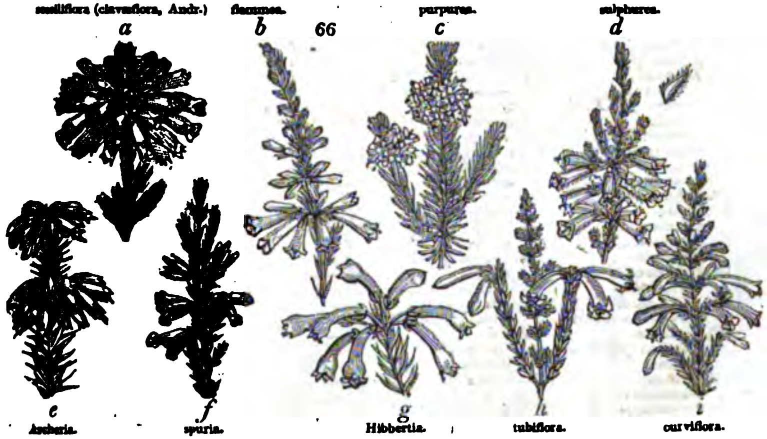
65



Ericas flowering in February.

Absinthoides
Archeria (*fig.* 66. *e.*)
Arctata
Ardens (*fig.* 71. *b.*)
Aspera
Assurgens
Bandenia
73. Bicolor (*fig.* 67. *g.*)
Bruniades
Caffra
Canaliculata
Carinata
74. Cerinthoides
(*fig.* 68. *b.*)
75. Coccinea (*fig.* 67. *b.*)
Colorans (*fig.* 67. *c.*)
Concolor superba
Cupressina
Decora (*fig.* 73. *c.*)
76. Discolor
77. Echiiflora superba
78. Elegans (*fig.* 68. *c.*)
Filamentosa
(*fig.* 75. *g.*)
Flava
Formosa
Gracilis
Grandinosa
(*fig.* 72. *b.*)
Hirta
Ignescens (*fig.* 65. *c.*)
79. Imbecilla
Imbricata
Lacticolor
Lambertia
Laxa
Leucanthera
(*fig.* 74. *b.*)
Linnæoides
80. Linneana (*fig.* 67. *d.*)
Longipedunculata
(*fig.* 75. *b.*)
Lutea
81. Melastoma
Mutabilis
Ovalæflora
Pellucida
82. Petiveriana coccinea
83. Peziza (*fig.* 72. *d.*)
84. Physodes (*fig.* 71. *c.*)
85. Picta
Pinea
Pinifolia
86. Plukenetiana
Præstans
Pubescens major
Pubescens minima
Pulchella
Radiata
Regerminans
Retorta (*fig.* 68. *g.*)
Rollisson's blanda;
Scabriuscula,
87. Sebana
——— lutea
Serpyllifolia
Serratifolia (*fig.* 65. *f.*)
Sessiliflora (clavæflora, Andr. 66. *a.*)
88. Setacea
Sparsa
Templea
Tenella
Transparens
Triumphans
(*fig.* 70. *h.*)
Vernix
——— coccinea
Versicolor (*fig.* 65. *b.*)
Viridescens

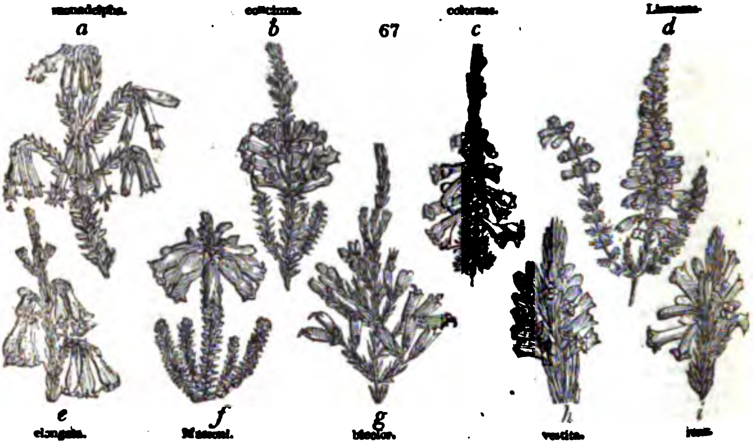
66



Ericas flowering in March.

Absinthoides
89. Acuminata
(*fig.* 69. *h.*)
90. Acuta
91. Albens (*fig.* 75. *a.*)
92. Arborea
Arobéria (*fig.* 66. *a.*)
Arctata
Ardens (*fig.* 71. *h.*)
93. Aristata major
Aspera
94. Atro-rubens
95. Australis
Bandonia
96. Blandfordia
97. Bonplandia
Bruniades
Caffra
Canaliculata
Carinata
Cerinthoides
(*fig.* 68. *b.*)
98. ——— magna
Colorans (*fig.* 67. *c.*)
99. Concava
Concolor superba
Cupressina
Decora (*fig.* 73. *c.*)
Echiiflora superba
Elegans (*fig.* 68. *c.*)
100. Epistomia
101. Fimbriata (*fig.* 70. *b.*)
Formosa
102. Fragrans
Gracilis
Grandinosa
(*fig.* 72. *b.*)
Hirta
Ignescens (*fig.* 65. *c.*)
Imbecilla
Imbricata
Lacticolor
103. Lævis alba
Lambertia
Linnæoides
Linneana (*fig.* 67. *d.*)
Longipedunculata
(*fig.* 75. *b.*)
Lutea
Melastoma
104. Mollis
105. Mundula
Mutabilis
106. Nigrita
107. Patens
108. Persoluta rubra
(*fig.* 72. *h.*)
Petiveriana coccinea
Peziza (*fig.* 72. *d.*)
Picta
109. Pinasterifolia
110. Pinifolia elegans
Plukenetiana
111. Pomifera
Præstans
112. Pubescens
——— minima
113. Purpurea (*fig.* 66. *c.*)
Regerminans
Rollisson's blanda
Scabriuscula
114. Scariosa (*fig.* 73. *i.*)
Sebana
Serpyllifolia
(*fig.* 72. *i.*)
Sessiliflora (clavaflora, Andr. 65. *a.*)
115. Sexfaria (*fig.* 70. *d.*)
Sparsa
Templea
Tenella
Triumphans
(*fig.* 70. *h.*)
116. Trossula rubra
Vernix
——— coccinea
Versicolor
(*fig.* 65. *b.*)
117. Vestita carnea
(*fig.* 67. *h.*)
118. ——— incarnata
119. ——— rosea
Viridescens
120. Viscaria
121. Walkeria

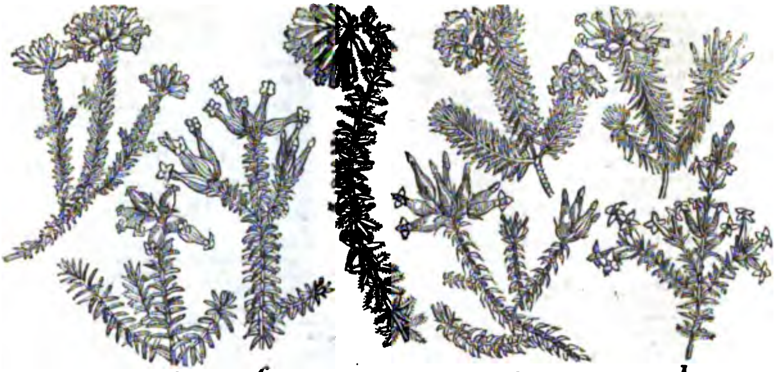
67



Ericas flowering in April.

122. Acutangularis
Albens (*fig.* 75. *e.*)
123. Amœna
Arborea
Archeria (*fig.* 66. *e.*)
Arctata
Ardens (*fig.* 71. *b.*)
Aristata major
Aspera
Australis
124. Biflora (*fig.* 70. *a.*)
125. Blanda
Blandfordia
Bonplandia
Bruniades
126. Campanulata
Cerinthoides
(*fig.* 68. *b.*)
——— magna
127. Cistifolia
Colorans (*fig.* 67. *c.*)
Concava
128. Costata
Cupressina
129. Daphnoides
130. Dilecta
131. Divaricata
132. Echiiflora purpurea
——— superba
Elegans (*fig.* 68. *c.*)
Epistomia
133. Expansa
134. Favoides elegans
Fimbriata (*fig.* 70. *b.*)
Formosa
Fragrans
Grandinosa
(*fig.* 72. *b.*)
135. Hybrida
Ignescens (*fig.* 65. *c.*)
Imbecilla
Lacticolor
Linnæoides
Linneana (*fig.* 67. *d.*)
Lutea
Melastoma
136. Mirabilis
137. Modesta
Mollis
138. Moschata (*fig.* 69. *e.*)
Mundula
Mutabilis
Nigrita
139. Nivea
140. Obbata rosea
141. Odora rosea
142. Ovata
143. Patersonia
144. Persoluta alba
——— rubra
(*fig.* 72. *h.*)
145. Perspicua nana
146. Petiveriana
Peziza (*fig.* 72. *d.*)
Picta
147. Pinea purpurea
148. Pinifolia echioides
——— elegans
149. ——— favoides
150. ——— pulchella
Plukenetiana
Pomifera
151. Princeps (*fig.* 68. *e.*)
152. Propendens
Pubescens major
Pubescens minima
153. Quadriflora
Scariosa (*fig.* 73. *i.*)
Sexfaria (*fig.* 70. *d.*)
154. Sulphurea (*fig.* 65. *d.*)
Templea
Tenella
155. Thalictriflora
Triumphans
(*fig.* 70. *h.*)
Trossula rubra.
156. Venusta
Vernix
——— coccinea
(*fig.* 65. *b.*)
Versicolor
157. Vestita alba
(*fig.* 67. *h.*)
——— carnea
158. ——— coccinea
159. ——— fulgida
——— rosea
Viridescens
Viscaria
Walkeria

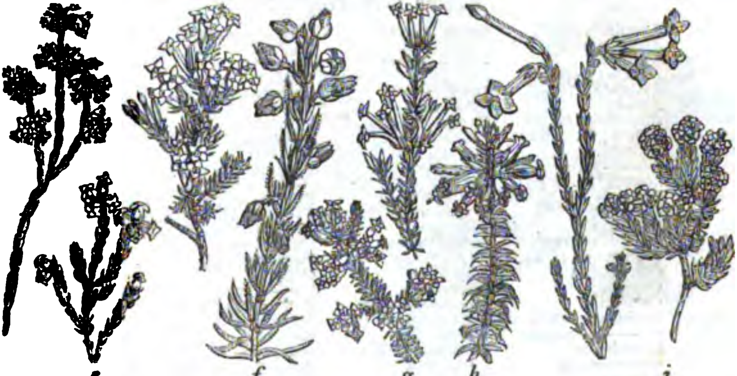
68



Ericas flowering in May.

160. **Acuta**
Acutangularis
Albens (*fig.* 75. *c.*)
Amœna
Arborea
161. **Arbutiflora**
Arctata
Ardens (*fig.* 71. *b.*)
Aristata major
Aspera
Australis
162. **Baccans** (*fig.* 70. *g.*)
Biflora (*fig.* 70. *a.*)
Blandfordia
Bonplandia
163. **Bowieana**
Bruniades
164. **Calycina capitata**
Campanulata
165. **Celsi**
Cistifolia
Concava
Costata
166. **Coventryana**
167. **Cylindrica**
168. **Daphnæflora**
Daphnoides
169. **Denticulata muscaria**
170. **Depressa**
Dilecta
Divaricata
Elegans (*fig.* 68. *c.*)
Epistomea
Expansa
171. **Favoides**
——— **elegans**
Fimbriata(*fig.*70.*b*)
Formosa
Fragrans
172. **Gelida** (*fig.* 65. *c.*)
173. **Gemmifera**
Grandinosa (72. *b.*)
174. **Humea**
Hybrida
Ignescens(*fig.*65.*c.*)
Imbecilla
Lacticolor
Lævis alba
175. **Linneana superba**
Lutea
Melastoma
Mirabilis
Modesta
Mollis
Moschata(*fig.*69.*e.*)
Mundula
176. **Muscaria**
Mutabilis
Nigrita
Nivea
Obbata rosea
Odora rosea
Ovata
177. **Paniculata alba**
Patersonia
Persoluta alba
——— **rubra**(72.*h*)
Perspicua nana
Petiveriana
Peziza (*fig.* 72. *d.*)
Picta
Pinea purpurea
Pinifolia elegans!
——— **pulchella**
Plukenetiana
Pomifera
178. **Prægnans**
Princeps (*fig.* 68. *e.*)
Propendens
Pubescens major
——— **minima**
Quadriflora
179. **Reflexa**
180. **Rollissoni**
181. **Russelliana**
Scariosa (*fig.* 73. *i.*)
Sexfaria (*fig.* 70. *d.*)
182. **Simplicifolia**
183. **Spuria** (*fig.* 66. *f.*)
Sulphurea(*fig.*66.*d*)
Templea
Tenella
Thalictriflora
184. **Thunbergia** (70. *c.*)
Transparens
185. **Tricolor**
Triumphans (70. *h.*)
Trossula rubra
186. **Tubiflora** (*fig.*66.*h.*)
187. **Umbellata**
188. **Ventricosa alba** (*fig.* 68. *d.*)
189. ——— **carnea**
190. ——— **coccinea**
191. ——— **nana**
192. ——— **superba**
Venusta
Vernix
——— **coccinea**
Versicolor(*fig.*65.*b.*)
Vestita alba (67. *h.*)
——— **carnea**
——— **coccinea**
193. ——— **elegans**
——— **fulgida**
——— **rosea**
Viridescens
Viscaria
Walkeria

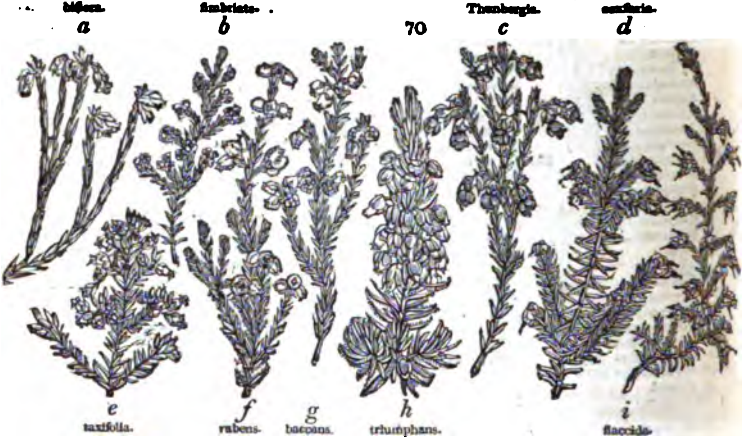
69



Ericas flowering in June.

Acuta
Acutangularis
Albens (*fig.* 75. *e.*)
Amœna
194. Ampullacea (68. *f.*)
Arborea
Ardens (*fig.* 71. *b.*)
Aristata major
Aspera
Baccans (*fig.* 70. *g.*)
Bandonia
Blandfordia
Bowieana
Bruniades
Calycina capitata
Campanulata
195. Capitata (*fig.* 71. *a.*)
196. Carneola
Celsi
Cistifolia
197. Comosa alba
——— rubra
Concava
Costata
Coventryana
198. Cubica major (74. *d.*)
199. ——— minor
Cylindrica
Daphnæflora
Daphnoides
200. Densa
Denticulata muscaria
Depressa
Dilecta
Elegans (*fig.* 68. *c.*)
Epistomia
201. Eriocephala
202. Ewerana superba
Expansa
Favoides
——— elegans
Fimbriata (*fig.* 70. *b.*)
Formosa
Fragrans
Gelida (*fig.* 65. *c.*)
Gemmifera
203. Grandiflora (65. *d.*)
Grandinosa (72. *b.*)
204. Hispidula
Humea
Hybrida
Imbecilla
205. Inflata
206. Infundibularis (*fig.* 69. *b.*)
207. Irbyana
208. Jasminiflora
Lævis alba
Linneana superba (*fig.* 67. *d.*)
Longipedunculata (*fig.* 75. *b.*)
Lutea
209. Mammosa purpurea
210. Massoni (*fig.* 67. *f.*)
Melastoma
211. Metulæflora (*fig.* 68. *a.*)
Mirabilis
Modesta
Mollis
Moschata (*fig.* 69. *c.*)
Mundula
Mutabilis
Nivea
Obbata rosea
212. Obcordata rubra
Odora rosea
213. Ollula
Ovata
214. Parmentiera
215. ——— rosea
Patersonia
Perspicua nana
Petiveriana
Peziza (*fig.* 72. *d.*)
Picta
Pinea
Pinifolia elegans
Plukenetiana
Pomifera
216. Prægnans coccinea
217. ——— superba
Princeps (*fig.* 68. *c.*)
Pubescens major
——— minima
Ramentacea (73. *a.*)
Reflexa
218. ——— rubra
Retorta (*fig.* 68. *g.*)
219. Rigida
Rollissoni
Russelliana
220. Savillea
Scariosa (*fig.* 73. *i.*)
Sexfaria (*fig.* 70. *d.*)
221. Shannonia
Spuria (*fig.* 66. *f.*)
Sulphurea (*fig.* 66. *d.*)
Templea
Tenella
222. Tetragona
Thalictriflora
Thunbergia (70. *c.*)
223. Translucens rosea
Tricolor
Triumphans (70. *h.*)
Tubiflora (*fig.* 65. *h.*)
224. Ventricosa (68. *d.*)
——— alba
——— carnea
Vernix
——— coccinea
Versicolor (*fig.* 65. *h.*)
Vestita alba (67. *h.*)
——— carnea
——— coccinea
——— elegans
——— fulgida
——— rosea

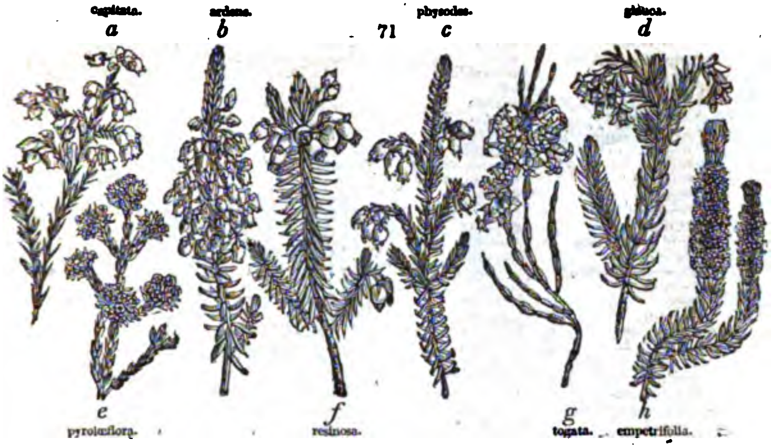
70



Ericas flowering in July.

Acuminata (69. *h.*)
Acutangularis
225. Aggregata
226. Aitonia (*fig.* 69. *d.*)
Albens (*fig.* 75. *e.*)
Amœna
Ampullacea (68. *f.*)
Ardens (*fig.* 71. *b.*)
Aristata major
227. ——— minor
Baccans (*fig.* 70. *g.*)
Bandonia
Bowieana
Bruniades
Calycina capitata
Capitata (*fig.* 71. *a.*)
Campanulata
Carinata
Carneola
Cerinthoides (68. *b.*)
——— magna
Comosa alba
——— rubra
Concava
Costata
Coventryana
Cubica major (*fig.* 74. *d.*)
——— minor
Cupressina
Depressa
Eriocephala
Ewerana superba
Expansa
Formosa
Gemmifera
Grandiflora (65. *d.*)
228. Hartnelli (*new*)
Hispidula
229. Incarnata
Infundibularis (*fig.* 69. *b.*)
Irbyana
Jasminiflora
230. ——— rubra
231. Juliana (*fig.* 69. *g.*)
Lambertia
Longipedunculata (*fig.* 75. *b.*)
Mammosa purpurea
Massoni (*fig.* 67. *f.*)
Moschata (*fig.* 69. *c.*)
Muscaria
Mutabilis
232. Nitida
Obcordata rubra
Ollula
Parmentiera
——— rosea
233. Petiolata
Prægnans coccinea
——— superba
Princeps (*fig.* 68. *c.*)
234. Pura (*fig.* 73. *d.*)
235. Pygmæa
Quadriflora
Ramentacea (73. *a.*)
Reflexa
——— rubra
Retorta (*fig.* 68. *g.*)
Russelliana
Savillea
Shannonia
Spuria (*fig.* 66. *d.*)
Sulphurea (*fig.* 66. *f.*)
236. Taxifolia (*fig.* 70. *e.*)
Templea
Tenella
237. Tenuiflora alba
Tetragona
Thunbergia (70. *c.*)
Translucens rosea
Triceps
Tricolor
Triumphans (70. *h.*)
Ventricosa (68. *d.*)
——— alba
——— carnea
238. ——— hirsuta
239. ——— nana
240. ——— purpurea
241. ——— stellata
——— superba
Vernix coccinea
Vestita alba (*fig.* 67. *h.*)
——— carnea
——— coccinea
——— elegans
——— fulgida
——— rosea
Viridiflora
Walkeria

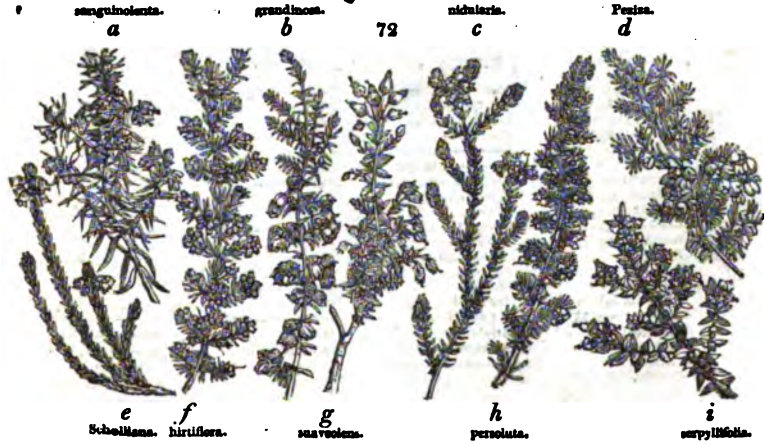
71



Ericas flowering in August.

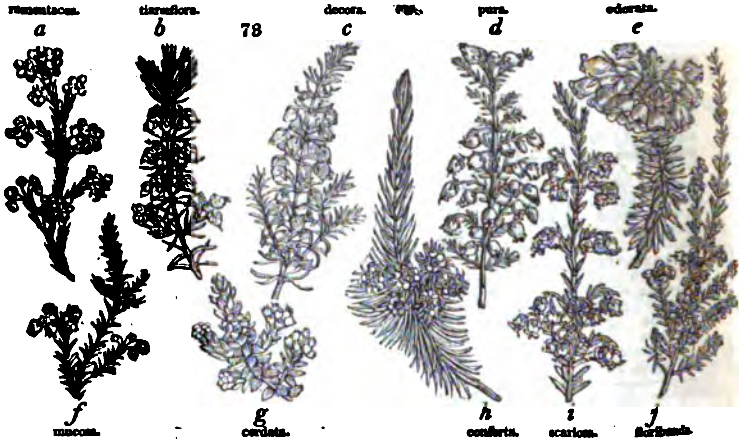
Acuminata
(*fig.* 69. *h.*)
Albens (*fig.* 75. *e.*)
242. Alopecuroides
Aggregata
Aitonia (*fig.* 69. *d.*)
Ampullacea
(*fig.* 68. *f.*)
Archeria (*fig.* 66. *c.*)
Ardens (*fig.* 71. *b.*)
Aristata major
Assurgens
Bandonia
243. Banksia rubra
Bruniades
Calycina
Capitata (*fig.* 71. *a.*)
Carinata
Carneola
Cerinthoides
(*fig.* 68. *b.*)
——— magna
244. Cernua (*fig.* 74. *a.*)
Coccinea
Comosa alba
——— rubra
245. Conferta (*fig.* 73. *h.*)
246. Conspicua
247. Cruenta (*fig.* 65. *h.*)
Cubica major
(*fig.* 74. *d.*)
——— minor
Densa
Depressa
248. Droseroides
249. Elata
Eriocephala
Ewerana
250. Exerta
251. Exsurgens
Filamentosa
(*fig.* 75. *g.*)
252. Flagelliformis
Formosa
Furfurosa
Gemmifera
Grandiflora
(*fig.* 65. *d.*)
Hartnelli
253. Hibbertia
(*fig.* 66. *g.*)
Hispidula
254. Hyacinthoides
Imbricata
Incarnata
Infundibularis
(*fig.* 69. *b.*)
Irbyana
Jasminiflora
——— rubra
Lambertia
255. Lanata
256. Lawsoni (*fig.* 68. *h.*)
Longipedunculata
(*fig.* 75. *b.*)
Lutea
Mammosa purpurea
257. Margaritacea
Massoni (*fig.* 67. *f.*)
258. Mucosa
Mutabilis
Nitida
259. Nobilis
Obcordata rubra
260. Obliqua
Ollula
261. Oppositifolia
262. Palustris (*fig.* 75. *i.*)
Parmentiera
——— rosea
Pellucida rubra
263. Perlata
Pinifolia elegans
Princeps (*fig.* 68. *e.*)
Pubescens major
Pulchella
264. Pura (*fig.* 73. *d.*)
Pygmæa
Radiata
Ramentacea
(*fig.* 73. *a.*)
Retorta (*fig.* 68. *g.*)
265. Rubens (*fig.* 70. *f.*)
266. Rupestris
Savillea
Setacea
Shannonia
267. Speciosa (*fig.* 65. *a.*)
Spuria (*fig.* 66. *f.*)
Taxifolia (*fig.* 70. *c.*)
Tenuiflora alba
Tetragona
Translucens rosea
Triceps
Tricolor
Ventricosa
(*fig.* 68. *d.*)
Vernix coccinea
268. Verticillata
Vestita alba
(*fig.* 67. *h.*)
——— coccinea
——— fulgida
——— rosea
Walkeria

72



Ericas flowering in September.

Absinthöides
Acuminata (*fig.* 69. *h.*)
Aggregata
Aitonia (*fig.* 69. *d.*)
269. **Alopecuroides**
Archeria (*fig.* 66. *e.*)
Ardens (*fig.* 71. *b.*)
Aspera
Assurgens
Bandonia
Banksia rubra
Bowieana
Caffra
Calycina
Capitata (*fig.* 71. *a.*)
Carinata
270. **Carneola**
271. **Cerifolia**
Cerinthoides (*fig.* 68. *b.*)
——— **magna**
272. **Concinna** (*fig.* 67. *b.*)
Conferta (*fig.* 73. *h.*)
Cruenta (*fig.* 65. *h.*)
Cubica minor
Cupressina
Densa
Droseroides
Elata
Eweranа
Exserta
273. **Exudans**
Exsurgens
274. ——— **carnea**
275. ——— **major**
Filamentosa (*fig.* 75. *g.*)
Formosa
Furfurosa
Grandiflora (*fig.* 65. *d.*)
Hartnelli
Hibbertia (*fig.* 66. *g.*)
Hispidula
Imbricata
Incarnata
Jasminiflora
——— **rubra**
Lambertia
Lanata
Lawsoni (*fig.* 68. *h.*)
Longipedunculata (*fig.* 75. *b.*)
Lutea
Margaritacea
276. **Montana**
Muscosa
Mutabilis
Nitida
Nobilis
Obliqua
Olluia
Oppositifolia
Ovaliflora
Palustris (*fig.* 75. *i.*)
Pellucida rubra
Perlata
Pinifolia elegans
Præstans
Princeps (*fig.* 68. *e.*)
Pubescens major
Pulchella
Pura (*fig.* 73. *d.*)
Radiata
Ramentacea (*fig.* 73. *a.*)
Retorta (*fig.* 68. *g.*)
Rollisson's blush
Rubens (*fig.* 70. *f.*)
Rupestris
Savillea
Setacea
Shannonia
Solandra
Sordida
Speciosa (*fig.* 65. *a.*)
Spuria (*fig.* 66. *f.*)
Taxifolia (*fig.* 70. *e.*)
Templea
Tenella
Tenuiflora alba
Translucens rosea
Triceps
Vernix coccinea
Verticillata
Vestita alba (*fig.* 67. *h.*)
——— **coccinea**
——— **fulgida**
——— **purpurea**
——— **rosea**

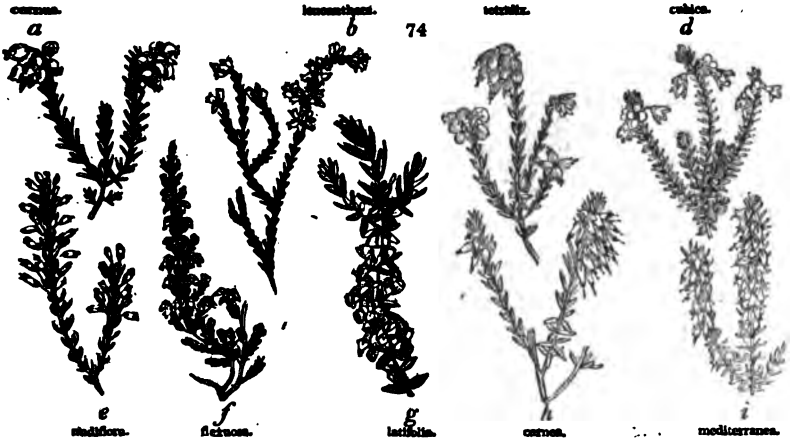


78

Ericas flowering in October.

Acuminata (*fig.* 69. *h.*)
Aggregata
Aitonia (*fig.* 69. *d.*)
Archeria (*fig.* 66. *e.*)
Ardens (*fig.* 71. *b.*)
Aspera
Assurgens
277. **Banksia purpurea**
——— **rubra**
Bandonia
278. **Blæria**
Bowieana
Caffra
Calycina
Capitata (*fig.* 71. *a.*)
Carinata
Carneola
Cerifolia
Cerinthoides (*fig.* 68. *b.*)
——— **magna**
Colorans (*fig.* 67. *c.*)
Comosa rubra
Concava
Concinna (*fig.* 67. *b.*)
Conferta (*fig.* 73. *h.*)
Cruenta (*fig.* 65. *h.*)
Cubica minor
Cupressina
Densa
Droseroides
Exserta
Exsudans
Exsurgens
——— **carnea**
——— **major**
Filamentosa (*fig.* 75. *g.*)
Flava
Formosa
Furfurosa
279. **Glandulosa**
280. **Globosa**
Gracilis
Hartnelli
Hispidula
Imbricata
281. **Lachnæa purpurea**
Lambertia
Laxa
Leucanthera (*fig.* 74. *b.*)
Longipedunculata (*fig.* 75. *b.*)
Lutea
Mammosa (*fig.* 65. *g.*)
Montana
Mucosa
Mutabilis
Nitida
Nobilis
Oppositifolia
Ovata
Palustris (*fig.* 75. *i.*)
282. **Pedunculata**
Perlata
Pinea
Præstans
Princeps (*fig.* 68. *e.*)
Pubescens major
——— **minor**
Pulchella
Pura (*fig.* 73. *d.*)
283. **Pyramidalis** (*fig.* 75. *f.*)
Radiata
Ramentacea (*fig.* 73. *a.*)
Retorta (*fig.* 68. *g.*)
Rupestris
Savillea
Sebana aurantia
——— **lutea**
——— **nana**
Solandra
Taxifolia (*fig.* 70. *e.*)
Templea
Tenuiflora alba
Triceps
Vernix
——— **coccinea**
Verticillata
Vestita alba (*fig.* 67. *h.*)
——— **coccinea**
——— **fulgida**
——— **purpurea**
Viridiflora

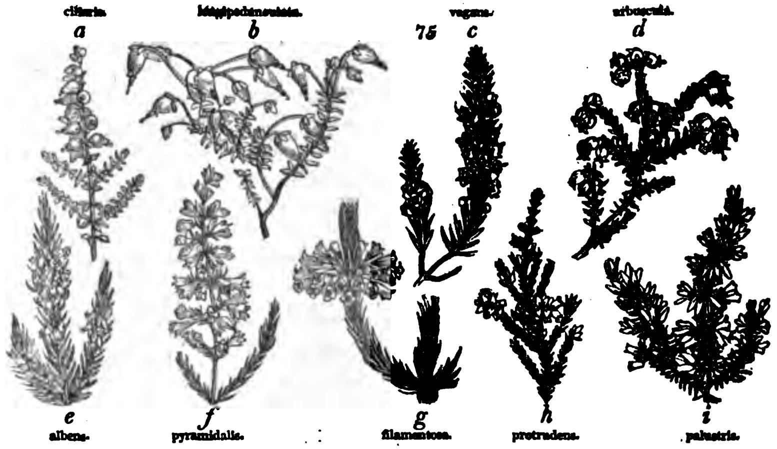
74



Ericas flowering in November.

Acuminata (69. *h.*)
Aitonia (*fig.* 69. *d.*)
Archeria (*fig.* 66. *e.*)
Ardens (*fig.* 71. *b.*)
Aspera
Assurgens
Banksia purpurea
Bowieana
Caffra
Calycina
Carinata
Cerinthoides (68. *b.*)
——— magna
Coccinea
Colorans (*fig.* 67. *c.*)
Comosa rubra
Concava
Concinna (*fig.* 67. *b.*)
Concolor superba
Cruenta (*fig.* 65. *h.*)
Cubica minor
Cupressina
Denticulata
Droseroides
Exsurgens
——— carnea
——— major
Filamentosa
(*fig.* 75. *g.*)
Flava
Formosa
Gracilis
Hirta
Imbricata
Lambertia
Laxa
284. Leea
Leucanthera
(*fig.* 74. *b.*)
Longipedunculata
(*fig.* 75. *b.*)
Lutea
Mammosa (65. *g.*)
Mucosa (*fig.* 73. *f.*)
Mutabilis
Oppositifolia
Ovaliflora
Pedunculata
Pinea
Praestans
Princeps (*fig.* 68. *e.*)
Pubescens major
Pulchella
Pyramidalis
(*fig.* 75. *f.*)
Radiata
285. Ralliformis blanda
Ramentacea
(*fig.* 73. *a.*)
Regerminans
Retorta (*fig.* 68. *g.*)
Rupestris
Scabriuscula
Sebana aurantia
——— lutea
——— nana
Serratifolia
(*fig.* 65. *f.*)
Solandra
Sordida
Taxifolia (*fig.* 70. *e.*)
Templea
Tenella
Tenuiflora alba
Triceps
Vernix
——— coccinea
Verticillata
Vestita alba
(*fig.* 67. *h.*)
——— coccinea
——— purpurea
Viridiflora.

75



Ericas flowering in December.

Absinthoides
Acuminata (*fig.* 69. *h.*)
Archeria (*fig.* 66. *e.*)
Arctata
Ardens (*fig.* 71. *b.*)
Aspera
Assurgens
Bandonia
Caffra
Calycina
Canaliculata
Carinata
Cerinthoides magna
Colorans (*fig.* 67. *c.*)
Comosa rubra
Concinna (*fig.* 67. *b.*)

Concolor superba
Cupressina
Denticulata
Exsurgens
Filamentosa (*fig* 75. *g.*)
Flava
Floribunda (*fig.* 73. *j.*)
Formosa
Furfurosa
Gracilis
Grandinosa (*fig.* 72. *b.*)
Hirta
Hispidula
Ignescens (*fig.* 65. *c.*)
Imbricata
Lambertia
Laxa
Leucanthera (*fig.* 74. *b.*)
Longipedunculata (*fig.* 75. *b.*)
Lutea
Mammosa (*fig.* 65. *g.*)
Mucosa (*fig.* 73. *f.*)
Mutabilis
Oppositifolia
Ovaliflora
Pellucida
Pinea
Præstans
Princeps (*fig.* 68. *e.*)
Pubescens major
——— minima
Pulchella
Pyramidalis (*fig.* 75. *f*)
Radiata
Ramentacea (*fig.* 73. *e.*)
Regerminans
Retorta (*fig.* 68. *g.*)
Rollisson's blanda
Rubens (*fig.* 70. *f.*)
Savillea
Scabriuscula
Sebana aurantia
——— lutea
Serpyllifolia
Serratifolia (*fig.* 65. *f.*)
Sessiliflora (clavæflora, Andr. 66. *a.*)
Solandra
Sordida
Sparsa
Taxifolia (*fig.* 70. *c.*)
Templea
Tenella
Transparens
Triceps
Triumphans (*fig.* 70. *h.*)
Vernix
——— coccinea
Versicolor (*fig.* 65. *b.*)
Vestita purpurea (67. *h.*)
Viridescens

The above display is formed of 285 species and varieties, which are numbered to show of what sorts this display is composed. In an ornamental point of view, the growth of plants in beds or borders of earth is far preferable to growing them in pots, and the genus Erica we think might be so grown, covered for five or six months in the year with a movable glass roof, at less expense, less trouble and risk than usual, and superior beauty. We do not allude to those movable roofs, where, when the sashes are taken off, the rafters, walls, and flues remain to disfigure the scene. To these there can be no objections in kitchen-gardens; but in ornamental scenery the roof should be so completely removed as to leave no traces of its appearance. This might easily be done by supporting it on movable iron props, which might fit into fixed sockets, and by having the flues under the paths. For six months of the year they would appear like a clump of hardy shrubs, and if they were planted on a rocky slope, or the surface arranged somewhat according to the native soils and situations of the plants, but not overdone, the illusion would be greater.

Monthly List of Hardy Heaths which have been in Flower in the open Air in the Tooting Nursery. The Heights of the tall growing Sorts given in Feet.

JANUARY.
1. Carnea (*fig.* 74. *h.*)
2. ——— herbacea
FEBRUARY.
3. Arborea, 5
Carnea (*fig.* 74. *h.*)
——— herbacea
MARCH.
Arborea, 5
4. Australis, 4
Carnea (*fig.* 74. *h.*)
——— herbacea
5. Mediterranea, 4 (*fig.* 74. *i.*)
APRIL.
Arborea, 5
Australis, 4
Carnea (*fig.* 74. *h.*)
——— herbacea
Mediterranea, 4 (*fig.* 74. *i.*)
6. Scoparia, 6
MAY.
Arborea, 5
Australis, 4
Mediterranea, 4 (*fig.* 74. *i.*)
Scoparia, 6
7. Umbellata
8. Viridis purpurea
JUNE.
Arborea, 5
Australis, 4
9. Cinerea alba
10. ——— rubra
11. Multiflora alba
12. ——— rubra
13. Polifolia
14. ——— nana
Scoparia, 6
15. Tetralix alba
16. ——— rubra
Umbellata
Viridis purpurea
17. Vulgaris
18. ——— alba
19. ——— decumbens
20. ——— flore pleno
21. ——— spuria
22. ——— variegata
JULY.
Australis, 4
23. Ciliaris (*fig.* 75. *a.*)
Cinerea alba
——— rubra
Multiflora alba
Multiflora rubra
Polifolia
——— nana
Tetralix alba
——— rubra
Umbellata
24. Vagans alba (*fig.* 75. *c.*)
25. ——— rubra (*fig.* 75. *c.*)
Viridis purpurea
Vulgaris
——— alba
——— decumbens
——— flore pleno
——— spuria
——— variegata
AUGUST.
Ciliaris (*fig.* 75. *a.*)
Cinerea alba
——— rubra
Multiflora alba
——— rubra
Polifolia
——— nana
26. Stricta, 2
Tetralix alba
——— rubra
Vagans alba
Vagans rubra
Viridis purpurea
Vulgaris
——— alba
——— decumbens
——— flore pleno
——— spuria
——— variegata
SEPTEMBER.
Ciliaris (*fig.* 75. *a.*)
Cinerea alba
——— rubra
Multiflora alba
——— rubra
Polifolia
——— nana
Stricta, 2
OCTOBER.
Multiflora alba
——— rubra
Stricta, 2
NOVEMBER.
Multiflora alba
——— rubra
Stricta, 2
DECEMBER.
Carnea
——— herbacea

Number of species and varieties twenty-six.

ART. III. *On the present State of Gardening in Poland.* By W. P. A. M. KITAIEWSKI, Professor of Chemistry in the University of Warsaw.

Dear Sir,

I HAVE read with much pleasure the first number of your valuable Magazine. At your request, I promised to give you some account of the present state of the art of gardening in my country; and the few following notices are all that I am able to communicate.

The love of gardening has been in all times very remarkable in Poland, and this art has made great progress during the last ten years; but the culture of plants has made more improvement within that period than landscape gardening, or the tasteful laying out of pleasure-grounds. Kitchen-gardening has been brought to such a degree of perfection, and is so generally practised, that the metropolis of the country, as well as the other towns, is provided with the utmost variety of the finest vegetables in every season. As to the culture of fruit trees, there are some private gardeners of the first-rate talents, and especially those of Warsaw and Cracow, whose endeavours are directed exclusively to the forcing of fruit trees, and they know well the culture of the vine; some of them are also very famous for the culture of the pine-apple.

But most money is spent on flower-gardens, and for the culture of rare exotic plants in hot-houses and green-houses. The taste for this part of gardening is very general among the richer classes of society, and the ladies especially are very fond of it. In the culture of useful plants, and the dissemination of that kind of knowledge among the lower classes of society, the Count Wodzicki's patriotic and liberal endeavours are generally acknowledged by his countrymen. His large garden at Neidzwiedz, near Cracow, and the Gardener's Dictionary published by him, bear witness to his merit in this department.

The proprietors of large estates in Poland, are generally very ambitious of possessing parks and beautiful pleasure-grounds. In laying out new residences, much care is employed, and the continual improvements made in this department testify the taste of our nobility. It is well known, that most of them spend a considerable time in their early life, in visiting foreign countries, and especially England, Italy, France, and Germany; where they learn to admire picturesque scenery. The following are residences with gardens and grounds laid out on English principles:—

Pulawy, (*fig.* 76.) the principal seat of the family of Prince Czartoryski, is situated on the Vistula, about 70 English

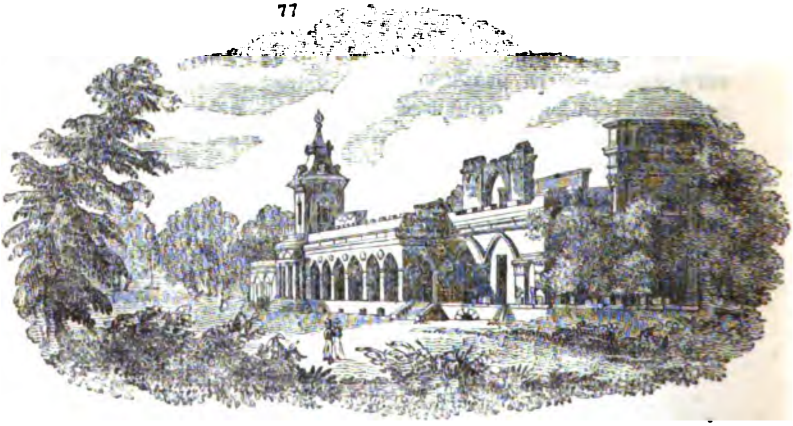
76

miles distant from Warsaw. This park may be compared, in every respect, to the most beautiful specimens of scenery in England and Germany. It is to the indefatigable endeavours and skilful taste of the Princess Isabella Czartoryska that we are indebted for this establishment. She has also published a useful work on landscape gardening. (*Ency. of Gard.* § 7697.)

Arcadia, a seat of the late Princess Radziwill, is a very remarkable place, about 30 miles from Warsaw.

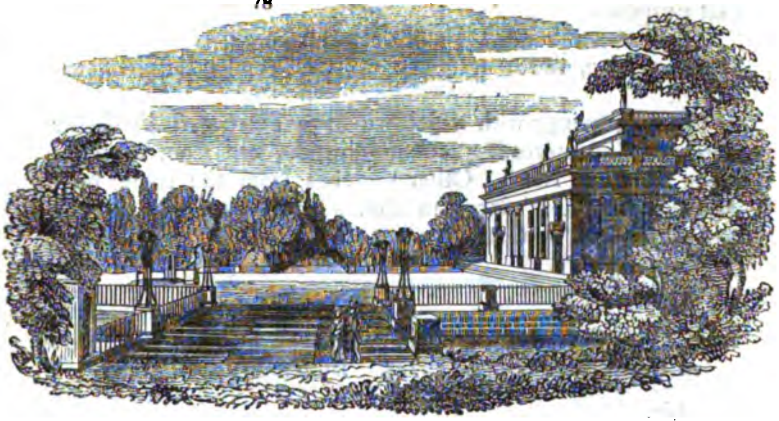
Villa Nuova (*fig.* 77.), near Warsaw, the ancient seat of King John III., now belonging to the family of Potocki, and Belvedere, near Warsaw, are also very handsome.

77



Lazenki (*fig.* 78.), a palace near Warsaw, with grounds

78



well described in your Encyclopædia of Gardening, and which every stranger allows to be most beautiful.

Moncoteau, and *Natolia-Gucin*, are not far from Warsaw, and very beautiful. There may be added the gardens of Mariejswice, Konskie, Skierniewice, Bobresck, Woyslawice, all of a rare beauty.

In what relates to the culture of forest trees, the management of natural woods, &c. we are entirely indebted to the enlightened endeavours of Count Louis Plater; who has also established a school of Forest Culture in Warsaw.

The large and beautiful botanic garden belonging to the University of Warsaw, under the direction of M. Schubert, Professor of Botany, possesses not only a very large number of species (about 10,000), but contains a collection of fruit and forest trees.

To these remarks, I may add one respecting the Larix communis. There are, in several parts of Poland, many woods of this tree, but particularly in the private forest belonging to the Count Soldyk, on the estate of Chlewisk. On this estate there are trees so old and large, that some years ago the French government sent M. le Chevalier Jean de Reverseau to purchase a great number of them for the French navy. Each tree, cleared of the bark, was 84 feet long, and 36 inches in diameter at the broad, and 18 inches at the small end. Twenty pair of oxen were necessary for drawing each of these trees out of the forest. It is, perhaps, also not unworthy of notice, that there have been made some trials, upon the use of the leaves of pines of several species for tanning leather, and that they appear to be applicable for that purpose.

I am, dear Sir, &c.

Warsaw, May, 1826. KITAIEWSKI.

The engravings with which we have illustrated Professor Kitaiewski's interesting communication, are from sketches taken by us in 1813. Other sketches from the same residences and other places in Poland, will be found in our Encyclopædias. — *Cond.*

ART. IV. *On a Disease which has attacked certain Elm Trees in Camberwell Grove, Surrey.* By a Constant Reader.

Sir,

MY attention was excited some few months since by an advertisement which appeared in several London and provincial journals headed "Diseased Elm Trees," and requesting persons having trees visited with a disease similar to that briefly described in the advertisement, to communicate with the advertiser, as it appeared that a suit in Chancery was depending thereon. Feeling considerable interest in whatever concerns forest timber and vegetable physiology, and wondering how such a matter could have got before the Court of Chancery, I took some pains to ascertain the nature of the disease to which the attention of the public was thus attracted; and as the subject is of importance, and the circumstances not altogether uninteresting, I avail myself of the opportunity afforded by your excellent Magazine of laying before your readers the result of my enquiry; the publication of it may possibly save some of them a suit in Chancery. For much of the detail I ought to say that I am indebted to the gentleman who inserted the advertisement, but of the *facts* I have satisfied myself.

It appears, that in July, 1825, some newly established Gas Company at Bankside began to lay down mains and erect posts, in the usual way, at Camberwell, in Surrey, preparatory to the lighting the village with gas; and that on the 23d of August following, the whole village was, for the first time, illumined with that elegant and unequalled light. Amongst the roads thus lighted was Camberwell Grove; a place well known to Cockneys as the reputed spot where George Barnwell is said to have murdered his uncle; and to a higher class of persons as the hospitable residence, for many years, of the celebrated Dr. Lettsom. To those who do not know the place of which I am speaking, it is necessary to say that Camberwell Grove is a road not quite two-thirds of a mile in length, forming a gentle ascent to its summit, about 30 feet wide, and having a row of trees on each side, consisting of elms, limes, poplars, and chesnuts of considerable age and size, closely planted, especially towards the upper part of the road. In the month of October following, a period of about six weeks from the introduction of the gas, several of the elm trees were noticed to have lost or been stripped of their bark, for about three, four, and five feet from the base of the trunk; and the evil appearing to increase, a gentleman residing on the spot, interested in the preservation of the trees, offered a reward of two guineas for the apprehension of the persons supposed to have thus mischievously barked them. Several months, however, passed by, and though watchmen were employed to sit up during the night, no persons were discovered. Still the evil was not diminished; the bark fell, or was stripped off, in greater quantities than before, and almost every person who walked up the Grove, or was attracted by the novelty of the circumstance, undesignedly added somewhat to the mischief, by ripping off a little bit in wantonness, or a curious desire to discover the cause. The trees presented a lamentable appearance, and were the subject of general conversation in the neighbourhood. Some time in January, in the present year, a bill was filed in Chancery against the Gas Company by the gentleman before alluded to, a solicitor in large practice, and an application made to the Court for an injunction to restrain the Company from laying on or conducting any gas through the mains laid down by them in Camberwell Grove. The application was founded upon affidavits of gardeners and others, who deposed that, in their opinion, the disease in the trees was occasioned by the escape of the gas from the mains, which impregnated the earth and poisoned the roots. The application, when made, was postponed, upon the ground of some defect in the plaintiff's proceedings, for a few days, and ultimately renewed during several periods, in which a great number of scientific men were consulted, who made affidavits as to their belief in the cause of the disease; and the matter was finally brought before the Vice-Chancellor on the 8th of April last, and the injunction refused; but leave was given to the plaintiff to bring an action, by which he might establish, before a jury, the alleged connection between the introduction of the gas and the disease in question, if any such really existed; and also to decide another question as to the right of the trustees for lighting the village to lay down the mains in the Grove under their act of Parliament. Upon this question I need not trouble your readers, as it is of no public interest. I am informed that no such action has been brought, and, moreover, that the plaintiff has subsequently moved to dismiss his bill, which can only be done upon payment of costs. From this circumstance, and from the legal ability and well-known perseverance of the plaintiff in all cases where success is attainable by talents, such as he is admitted to possess, I am justified in concluding that he satisfied himself, as, I confess, I am satisfied, and all those with whom I have conversed, that there was no connection whatever between the introduction of the gas and the decortication of these old elm trees. I have, by permission of the solicitor for the defendants, perused carefully all the depositions, as well those upon which the application for an injunction was founded as those upon which it was resisted. In support of the application, the reasoning that appears most powerfully to have influenced the judgment of the deponents, is the mere fact of the coincidence, as to time, between the introduction of the gas and the appearance of the disease. I am informed that, since the application to the Court, an individual has been found, who noticed the partial decortication of the elms prior to the introduction of the gas: this, though it would have settled the question between the contending parties, had it been known in time, does not elucidate the nature or cause of the disease, both of which are interesting to all whose observation has been directed to the constitution of plants.

By two of the gentlemen who were consulted by the defendants, I find the decortication of the trees was attributed to the ravages of the little insect called the Scolytus destructor, whose amazing powers of destruction are so ably treated of by Mr. W. S. M'Leay in his report upon the state of the elms in St. James's and Hyde Parks.* The ultimate result is certainly the same, for in both diseases the bark falls off and the tree perishes, and there are a great number of trees in Camberwell Grove unquestionably infested and destroyed by this astonishing little insect; and even at this moment, if you strip off a piece of the bark, you will find myriads of larvæ feeding on the soft inner bark, the surface of which presents to the view (as described by Mr. M'Leay) innumerable impressions, which may be compared to large and broad scolopendræ, and the outer bark is perforated with innumerable holes, as with a brad-awl.

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* See Edinburgh Philosophical Journal, No. xxi. July 1. 1824, art. xii.; also No. cccvi. of Tilloch's Philosophical Magazine for October, 1823, art. li. signed "Dendrophilos."

But still, I confess, it appears to me, as well from the other affidavits and depositions upon the subject as from my own observation, that the elm trees, in the present case, are visited with a distinct and independent disease; which I learn was prevalent last summer, and may yet be seen in many other parts of the country where no gas has ever been, and where the Scolytus does not appear to have been noticed.

In Camberwell Grove the mains were laid close to the trees, on the left-hand side of the road as you ascend, and equally near to all the trees on that side, and yet the elms on the right-hand side, at a distance of thirty feet from the mains, were equally and in the same manner affected, and no other species of tree was thus visited. The disease is thus described by Mr. Lindley, the garden secretary, of the Horticultural Society, in his deposition: "The outer or indurated bark of such of the said elm trees as present the unhealthy appearance aforesaid is detached and easily separable from the inner bark thereof, and very considerable quantities have fallen or been stripped off from the said trees. The inner bark exhibits the appearance of considerable extravasation of the juices having taken place, thereby giving to the surface thereof an unusually humid appearance, which, in the opinion of the deponent, indicates an approach to putrefaction; and, in one instance, the extravasation of the juices had become so copious as to flow from the tree in the form of foul putrid matter." Mr. Lindley then proceeds to detail at length the arguments and reasonings upon which he is convinced that the disease in question is in no way arising from, or connected with, the gas; and he makes it clear almost to demonstration, by an illustration of a particular case, that if the trees had really absorbed poisonous or deleterious matter, a general *aridity* would have been the result, in consequence of which the bark would have adhered more closely than usual to the wood, and no extravasation of the juices and decortication, as in the case of the trees in Camberwell Grove. I lament that I have not room to copy from his deposition the description of the manner in which the circulation of the sap of the tree takes place, from which he proves that the leaves and the ends of the branches, and not the trunk, would have been the first parts affected, supposing that the gas had exercised any specific influence upon the trees. He concludes by quoting from, and referring to, the works of several learned and able writers, who have treated upon these diseases as incident to old elms, and known to botanists more than half a century since; particularly Duhamel du Monceau, in 1758, in his work entitled "La Physique des Arbres;" Dr. Carl Ludovic Willdenow, professor of natural history and botany, in the University of Berlin, who speaks of this disease under the name of "carcinoma arborum;" M. Brisseau-Mirbel; the Reverend Patrick Keith; Professor Link; and many other writers of great consideration and authority.

There are other affidavits, showing, as at Cheltenham, the innocence of gas, after having been used for several years in the midst of the public walks, and close to the roots of the elms there, and pointing out the existence of the identical disease in many places where gas never was.

Upon the whole, the facts, the reasonings, and opinions, adduced by a large number of first-rate men, appear to me so perfectly conclusive that I conceive it would have been impossible, had the case gone before a jury, to have doubted as to the result.

I have myself since inspected some elms in the rookery at the arsenal at Woolwich, and in a field belonging to Earl Ferrars, at Bayswater, and in several of the gardens of the colleges at Oxford, and I find the disease the same, with this only difference, that in Camberwell Grove, or the neighbourhood, it is evident that there are persons who have an object in getting rid of the trees, as either injurious to health or building speculations, who have violently ripped off the bark, as it has become loosened by the diseased state of the tree. The trees are now certainly dying, although they budded and came into leaf apparently as strongly as their more healthy neighbours; and the present hot summer seems likely to complete what the heat of last year, aided by the drains and adjoining buildings, probably contributed to commence.

It is by the communication of individual knowledge and experience that society, in the aggregate, is benefited, and by giving place to communications of such experience, that the character and intelligence of our gardeners will be raised.

I have no other object in this communication, than the contributing my mite of information to the general stock, and I ought, perhaps, to apologise for having taken up so much of your valuable work.

I am, &c. &c.
A CONSTANT READER.

London, August 26. 1826.

We have seen several of the affidavits alluded to, on both sides of the question, conversed with four of the deponents, and examined the trees. Most of the depositions proceed on the supposition of the gas escaping from the pipes under ground, and being absorbed by the vessels of the roots; but one argues on the idea of the gas escaping in the atmosphere, and acting by contact with the parts injured. Some of the deponents, as Mr. Lindley, reason on physiological principles; others, as Mr. Sinclair, from experience and observation; a third class decide empirically; and one gentleman experimentally. This last deponent, an eminent chemist, planted some sets of potatoes in natural soil, and some in soil impregnated with hydrogen gas, and found that those in the latter soil were some days later in appearing above ground than the others; however, they did appear, and grew very well.

That plants, like animals, may be poisoned by the absorption of deleterious substances, has been proved by M. T. Marcet (*Gard. Mag.* 89.): but that the disease in the bark of these elms is not owing to the absorption of poison, Mr. Lindley has satisfactorily deduced from the known facts, that the sap absorbed by the root of a tree ascends by the wood to the leaves, and there being changed into proper juice, analogous to the blood of animals, returns by the bark; consequently, in returning, it would first have affected the young shoots at the top of the tree, and on the extremities of the branches, before it could have injured the lower part of the trunk. That the disease is not owing to the presence of gas in the atmosphere is evident from the circumstance of neither the leaves of the elms, nor the flowers and tender shrubs close to that side of the road where the gas pipes are laid, being in the slightest degree injured. What, then, is the cause of the disease? Old age and the want of nourishment. This is our decided opinion. The soil is thin, on a gravelly subsoil; the trees stand close together, and, consequently, the ground is completely filled with their roots. Already stinted in their growth, and beginning to decay, this process was accelerated by the dry summer of 1825, and by a series of excavations made in that year along one side of the avenue for a row of houses; which completely drained the gravelly stratum.

The extravasation of the juices mentioned by Mr. Lindley, did not appear to us general, and the insects alluded to by our correspondent are found under the bark of most elm trees in a state of decay, and are to be considered as the consequences of that process. In addition to the trees referred to, as similarly circumstanced with those at Camberwell Grove, may be mentioned a number at Lisson Grove, Paddington.—*Cond.*

Art. V. *Remarks, including the Results of some Experiments, on budding the Peach and Nectarine on Almond Stocks.* By Mr. William Anderson, F.L.S. H.S. &c. Curator of the Botanic Garden, Chelsea.

Dear Sir,

A Gardener's Magazine was much wanted, and one conducted by you, who have been so much employed in the various practices of horticulture, cannot fail to be patronised by the gardeners, and become useful to the public. With this persuasion, we send you the following observations on the almond as a stock, which you may perhaps think worth a place in your pages.

At an early period of our practice, it appeared strange that the almond was not employed as a stock for the peach; we enquired the reason amongst the nurserymen, but got no satisfactory answer. This induced us, in the spring of 1815, to plant six-pennyworth of sweet almonds in the vacant places on the wall of our little kitchen-garden here: some of these were strong enough by September following to take buds; but we waited to have several of the best sorts of peaches worked at the same time. In July and August, 1816, we budded twenty-eight of these stocks, with fifteen sorts of peaches, as follow:—

Budded in 1816.	Alive in 1826.	Budded in 1816.	Alive in 1826.
2 Nobless (Noblest ?)	0	2 Têton de Venus	0
2 Early Ann	0	2 Galande	0
2 Late Admirable	2	2 Red Magdalen	0
2 Violet hâtive	0	2 Red Roman Nectarine	1
2 Royal George	2	2 Newington Nectarine	2
2 Grimwood's Royal George	0	1 White Nectarine	1
		2 Red Magdalen Peach	2
2 Avant Rouge	2	1 Abricot Pêche	1

Total budded in 1816, 28; alive in 1826, 13.

These buds succeeded as well as they usually do on any of the plum stocks. In 1817 they made very strong shoots. Our expectations were now raised very high, although one plant, on which was Grimwood's Royal George, after perfecting its wood, dried up with its leaves on in October, when the sap was descending. This we thought might be owing to some evil at the root, as nothing appeared above ground to account for the failure. In 1818 many of the sorts flowered and produced larger fruit than the same kinds on plum stocks; the shoots were strong, and all promised well for a great crop the following year. About the end of September, however, five of the best trees began to decay, and by the middle of October they dried up, keeping their leaves on. The remaining trees had now become fans of three feet radiation, with fine shoots. These ceased to elongate about the end of August, and afterwards they swelled the wood and flower buds. It should be observed, that the almond, left to itself, usually continues growing, even till checked by the frost of December.

In 1819 we lost three fine trees, as in 1818; in 1820 we lost but one tree; in 1821 we lost two trees; in 1822 we lost one; and in 1823 we thought the like misfortune was at an end, as the remaining twenty-one trees shed their leaves and flowered well in the spring of 1824, and all of them produced fruit less or more. Our reviving hopes were blasted, however, in October following, for then two fine large trees dried up with all their leaves on. In 1825 there was a great show of large flowers and plenty of fruit, but two of the remaining nineteen went off as on former years.

A bud of the Moorpark apricot was inserted on one of these stocks in 1816, and produced fruit in 1820. It now covers about four yards of wall, and its fruit is larger, smoother, and better flavoured than when worked on the plum; but we are afraid it will be of short duration, for two years after budding, the almond stock, being about two feet high, became as rugged as an aged apricot tree, and lately we have discovered that one side of it is quite rotten. The stocks of the peaches and nectarines, the white nectarine excepted, which is become very rough, are as smooth barked as those which are not worked.

From the above are we to conclude that peaches will not thrive many years on almond stocks? or are we to wait ten years longer, to know how many of these remaining thirteen trees are in a thriving state at twenty years' growth? In the meantime, you may, perhaps, hear the result of other experiments on the same subject.

The trees alive are denoted by the numbers following the names in the list. There are twelve of the almonds which have never been worked at all; these have been all along, and still are, in perfect health and vigour.

I am, dear Sir, yours, &c.

Wm. Anderson.

Chelsea Garden, March 11. 1826.

In France the peach and nectarine are most commonly worked on almond stocks, and both there and in Germany they are found to do well on such stocks when the soil is deep and dry. When the soil is not deep, or where it is wet bottomed, they prefer the damson or Julien plum stocks. Apricots are also frequently grafted on almond stocks, and found to do quite well. See the *Bon Jardinier* for 1826, articles *Pêcher*, *Amandier*, and *Abricotier*. If we might suggest an opinion as to the cause of the failure of Mr. Anderson's trees, we should say, — as the soil is loose and deep, might it not be owing to the wet bottom? They are within a few yards of the Thames, which rises within two feet of the ground's surface every spring tide. — *Cond.*

Art. VI. *On the Culture of the Cyclamen Persicum.* (fig. 79.)

By Mr. John Wilmot, F.H.S. Isleworth.

Sir,

This beautiful bulb appears to have been introduced about the year 1731 from the island of Cyprus; and though it has been nearly a century in our possession, yet the general culture certainly cannot be sufficiently understood, as we seldom find it in any thing like perfection, being generally a weak plant, both in leaf and flower, with seldom more than twenty blossoms at a time on the bulb. My object for thus addressing you is to see it more extensively cultivated; and as you profess, in your Magazine, the ornamental as well as the useful part of horticulture, I trust that the observations I am about to make relative to the culture of this elegant plant may not be unacceptable to my brother gardeners, or considered a presumption on my part, or a digression from my particular department in the profession.

79

The method generally pursued with this handsome bulb is to suffer it to flower in the green-house, and, at the latter end of the summer and autumn months, it is usually put away in some dry place, and frequently the pots turned on one side in a dry state, together with the Ixias, Amaryllises, &c. and not suffered to vegetate until the following spring, when the bulb is frequently found as dry as possible. It then undergoes the same treatment as in the preceding year, after a renovation by moisture, heat, &c. Nature having performed its office, it is again assigned to the drying system.

Being extremely partial to this fine-scented bulb, I turned my attention to its propagation and culture, and with that success which astonished every one who saw it. At one time I had some hundreds of pots, and so uncommonly luxuriant was their growth, that an eminent botanist, one of your correspondents, once asked me what plants they were.

As this plant blossoms early I would advise assisting it with a little heat. Select a few pots, and place them in the stove in the beginning of February; they will soon show their blossom; remove them, by degrees, into their old quarter, the green-house, and select only those plants that are scented, some being much more so than others; they will soon form their seed-vessels, if assisted with plenty of air, and, when you find the seed sufficiently ripe, sow it immediately in pans. The plants will appear in the autumn; let them remain in the green-house to about the beginning of May; and, in removing the plants from the pans, you will find they have formed bulbs about the size of a pea, and some as large as a hazel-nut. Prepare a bed for their reception by digging and raking the soil to a fine mould, and cover the same over with about two inches of sifted loam, leaf mould, or rotten dung, with a mixture of sandy peat. Plant the bulbs six inches apart from each other, and let them be kept covered, either with hand-glasses, which at that season can be spared, or with hot-bed sashes, to protect them from the cold and probably frosty nights, and, in the daytime, admit what air is required, according to the state of the weather. About the middle of summer, when you apprehend no danger from the frosty nights, &c. the glass may be taken away, as the plants will require no farther care than sufficiently watering them, if the season proves a dry one, and as often as occasion may require.

At the time you remove the green-house plants into the house let the cyclamen be taken up carefully and potted, one bulb in a small pot. Fit the pot to the size of the plant, and be careful not to place a small plant in a large pot. The pot No. 60. for small ones, and the No. 48. for the larger, will be sufficient; and, if a fine growing summer succeed, some of the bulbs will be two inches in diameter, and produce as much blossom as a plant two years old by the drying system. The soil I made use of was loam, leaf mould, and dung, with some sand or bog earth, and plenty of that white sharp sand, which is to be found in the bog soil of Wimbledon Common; the prohibition from taking which must be universally acknowledged as a great injury, not only to that highly respectable class the nurserymen around our metropolis, but to private gentlemen and botanists of every description.

By this mode of cultivation a stock of that beautiful plant can easily be raised; and as time can be saved in the cultivation without any additional expense or trouble, I trust I shall, in a short time, see it growing generally with that luxuriance which I have often observed with pleasure in my own garden, where I have frequently counted from fifty to eighty fine, strong, expanded blossoms from a bulb two years old, growing in a forty-eight-sized pot. If you consider these observations worthy insertion in your useful publication, they are much at your service.

I am, dear Sir, &c.
JOHN WILMOT.

Isleworth, April, 1826.

ART. VII. *Some Account of an Attempt to arrest the Ravages of the Aphis lanigera, or American Blight, on Fruit Trees.* By T. C. HUDDLESTONE, Esq. F.H.S.

Sir,

IF the following account of an unsuccessful attempt to arrest the ravages of the woolly aphis, should be deemed worthy of a place in the pages of your Magazine, I should feel obliged by its insertion; and it may perhaps be a means of attracting the attention of scientific and practical men to the rapid progress of the insect. In the spring of the year 1825, my attention was first attracted to the state of some old apple trees in my garden, by observing, on the decayed parts of the trunks, an appearance of cotton, which, upon a closer examination, I discovered to proceed from a small insect, which I immediately recognised as the woolly aphis, or American blight. Upon referring to the pages of your valuable Encyclopædia of Gardening, second edition, I found that the best methods there recommended of destroying it, were "thoroughly cleaning with a brush and cold water, together with amputation when it has been some time at work:"—"but this will not do unless resorted to at an early stage of the progress." I therefore immediately began to clean out the decayed places with a sharp-pointed stick, and for some time

I kept the insect under very well, but it soon outstripped my exertions, and established itself on the branches; so I determined to let the fruit ripen, and attack my enemy in his quarters before the commencement of winter; and finding that the insect existed upon the sap alone, I naturally concluded that if I could case the stems and branches of the trees with any thin substance, I should succeed in putting an end to the progress of the insect. In pursuance of my plan, at the latter end of October, I ordered my gardener to procure some quick-lime and mix it with water, and then directed him to whitewash the trees with it, and lay it on pretty thick upon the stems and larger branches: he obeyed my instructions to the letter; the trees were completely cased in lime. The winter season passed, spring came; the trees were covered as usual with abundance of blossoms, for they are yet excellent bearers, and I was rejoicing at the success of my experiment; but I soon discovered that it had completely failed, for an abundance of the insects were found by me, even where the lime was thickest, and are even now, while I am writing, still upon the trees, especially on this year's shoots. But I intend to try one other experiment at the close of the autumn; and as some of my friends were anxious to know the result of this first experiment, I thought that the best method was to communicate the result to you for insertion in the widely circulated Gardener's Magazine.

I have the pleasure to remain, Sir, &c.

THOS. C. HUDDLESTONE.

Newark on Trent, August 1. 1826.

ART. VIII. *Recipe for composing a Liquid for effectually destroying Caterpillars, Ants, Worms, and other Insects.* By Mr. JAMES BURGES, Gardener to the Reverend Richard Lane, of Coffleet, Devonshire.

Sir,

I HAVE perused the first, second, and third numbers of your excellent work, the Gardener's Magazine, with much gratification, but have not met with any thing for effectually destroying insects. Permit me, therefore, to inform you of a composition of a liquor for destroying caterpillars, ants, worms, and other insects. Take black soap one pound and half, sulphur vivum one pound and half, nux vomica two ounces, mushrooms of any kind two pounds, rain or river water twelve gallons. Divide the water into equal parts: put six gallons into a barrel (which should be only used for this purpose); put the soap in the barrel with the water, let it be well stirred till it is quite dissolved; then add to it the mushrooms, after they have been slightly bruised: take the remaining six gallons of water, put it into a kettle to boil; put the whole quantity of sulphur into a coarse cloth, tie it up and fasten to it a stone, that it may sink to the bottom of the kettle; put the nux vomica likewise into the kettle to boil; thirty minutes is the time it should be kept boiling; keep it well stirred with a stick, and let the sulphur be well squeezed out, that it may unite to the lather. The water, when taken off the fire, is to be poured into the barrel with the before-mentioned soap and mushroom-water. It is to be well stirred every day with a stick, until it gets incorporated altogether, and the mixture becomes fetid; it is necessary to stop the barrel while you are stirring it. In using it, sprinkle on the ground, or eject it with a common syringe. When all the water has been made use of, the sediment should be thrown into a pit and covered over, lest any thing eat of it. If you deem this receipt deserving a place in your valuable miscellany it is at your service.

I am, Sir, &c.
James Burges.

Coffleet, near Plympton, Devonshire,
August 18. 1826.

P.S. In a future letter I shall give a composition for fruit trees. J. B.

Art. IX. *A simple, effectual, and expeditious Mode of destroying the Green Fly and other Insects.* By Mr. Thomas M'Laurin, Gardener, Bunny Park, Nottinghamshire.

Sir,

In the present dry season, so favourable to the production of green fly that their numbers are almost unprecedented, the following method, which I practise, for their destruction, may perhaps not be unimportant to some readers of your valuable Magazine.

I procure, from the tobacconist's, liquor expressed from tobacco, to every gallon of which I add five gallons of water;

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this mixture ~~I~~ with Read's garden syringe, sprinkle over the trees, putting it on the finest rose, and being careful to wet all the leaves; this operation is performed only in the hottest sunshine, as the effect is then much greater than when the weather is dull. ~~In this manner I have, this spring, with~~ five gallons of liquor, reduced as above stated, cleaned seventeen peach and nectarine trees, twelve of which average seventeen feet in length and twelve in height. The black glutinous ~~insect~~, provincially called blight, so destructive to the cherry trees, is destroyed in the same way with equal facility. ~~I have also found, upon trial, that~~ the grubs which attack the apricot, may be destroyed almost instantly by immersing the leaves infested in this liquor.

I have

fluid

This is the cheapest and most expeditious ~~manner of de~~stroying the above insects ~~which has~~ come within my knowledge, and to ~~those~~ who have not seen the operation ~~performed the~~ effect produced is almost incredible. Roses, and, in fact, any plant liable to be infested with green fly, and situated where tobacco smoke cannot be used with effect, may be easily cleaned by dipping in or sprinkling with tobacco liquor, as circumstances may render most convenient.

When trees have got so bad that their leaves are much curled, some of the flies, being protected within the curl, will escape: in this case more force must be applied to the syringe, and in a day or two the trees should be looked over again, and whatever part of the leaves has not been wetted should be washed with a painter's brush; but a careful person will render this process unnecessary, by taking them in time.

The liquor costs in Nottingham 1*s.* 2*d.* per gallon.

I am, Sir, &c.

THOS. M'LAURIN.

Bunny Park, Nottingham, May 22. 1826.

ART. X. *Remarks on the Affairs of the London Horticultural Society.* By a Friend to Facts.

Sir,

UPON perusing a letter in your last Number (Art. XV.), and your note respecting the Horticultural Society, I was struck with the concluding sentence of the latter, viz., "We think it very questionable if the present system, embracing so many objects both at home and abroad, can be continued for many years longer." This point, I think, requires the immediate consideration of the Society. Few institutions, perhaps, have increased their numbers so rapidly; notwithstanding which, the expenditure has exceeded the receipts; for it appears by the last report of the Garden Committee, that the Society has been obliged to raise a loan of 3000*l.* to complete works already in progress. Now, it never can be expected that subscribers will be added in such numbers as they have been. As a Fellow of the Society, I know that fashion alone has induced many to join it, which has brought funds very useful to it in its infancy; but this leader is too capricious to leave any solid grounds for hope that its votaries will continue to uphold the building they themselves have assisted to rear. It is self-evident too much has been aimed at to accomplish at once; and I fear, should any cause deprive us of our active and energetic Secretary, it will be difficult to find a successor who will even maintain what he has established. A more gradual formation, and greater economy in the expenditure, would have been wise, therefore, on this account, as well as others. It is probable that half the quantity of land now rented would be sufficient for the attainment of all the really beneficial objects of the Society. The members are not to apply for articles they can obtain of the nurserymen. Of what use, then, are the large quantities of such which are now grown by the Society? and what becomes of the fruit and vegetables produced in their garden, not a tithe of which appears at their meetings? As the Society wants funds, why not find a market for this, or grow less, and so reduce the expenses? These remarks I have heard from strangers who have occasionally visited the garden with me. Upon the principle of not supplying such articles as are grown at the nurseries, I think the Society might also exclude every thing they introduce when they have established it in the country, and so make room for other new fruits, vegetables, and plants. Upon the subject of sending out collectors, I differ with your correspondent. A Society with such means in their power, and objects in view, are benefiting the community greatly by so doing, as they so *freely distribute* what they obtain. He must likewise know that the Linnean Society has no garden. As to the establishment at Kew, the system there is not to *distribute*, but to *retain* all that is valuable within itself. There new plants live and die unseen except by a few favoured individuals; for if a visit is paid to the gardens, it is ten to one if you have a person to attend you who knows which they are, or is willing to point them out. The Horticultural Society has never attempted a scientific botanical collection; but, destitute as the neighbourhood of London is of one that is usefully open to the public, I should not regret their doing it.

The observation in your correspondent's letter respecting the admission of strangers, induces me to believe he is unacquainted with the facility afforded. A Fellow may introduce one when he visits the garden himself, or he may obtain a ticket for a friend by application to the office in Regent Street. Indeed, a stranger, personally applying, will have one granted; and it is only to those who have subscribed ten pounds and upwards towards the formation of the garden, the privilege is allowed of filling up tickets; and which, although I do not possess it myself, I think very reasonable and proper. Upon the whole, I am greatly pleased with this Society with all its faults, (and what is perfect?) and most earnestly wish it success. Still I always thought its expenditure enormous, even when there was only the small garden at Hammersmith: but experience, I doubt not, will lead to the adoption of more economical and mature arrangements; the useless will be laid aside, and the important ones only followed.

I am, Sir, &c.

A FRIEND TO FACTS.

August 24. 1826.

ART. XI. *Observations on the Article of "A Fellow of the Society," relative to the Conduct and Administration of the London Horticultural Society.* By a Friend to Discussion.

Sir,

BEING partial to gardening, and a friend to free discussion on every subject, I have thrown together a few observations on an article in your second Number on the Horticultural Society; and though I differ from the author of that paper as well as from you in some particulars, I trust to your candour and impartiality to insert them.

The cause of all the evil, in your correspondent's eyes, is the unpaid secretary; and certainly the first thing that must strike every one on this subject is, that it is very hard to do "so much for the Society," as both your correspondent and you allow that he has done, and yet get neither money nor thanks. But if your correspondent has ever belonged to any other society, he must know that the business of no society could go on without a secretary who had a deal of power, and who took a very active part in promoting its objects. No man will take this active part without being paid in some way; either in money, influence, or celebrity. Influence is comparatively unbounded in extent, and consequently will carry some minds farther than money; money, if it does not do so much, is more convenient, because it is more manageable. The best society which I have ever known is the Society of Arts. I have belonged to it nearly thirty years, and I believe it has done more good than any other society of the kind. The late secretary, Mr. Taylor, and the present one, Dr. Aikin, both paid in money, are examples of what the secretary of a society that has the public good for its object ought to be; and I have no hesitation in saying that I should prefer such a secretary for the Horticultural Society. It is not likely that with such a secretary the councils or committees would render themselves liable to such remarks as those of your correspondent, because the "passive mood" would not be required as the payment of the secretary, and an "active mood" would be required for their own credit.

The Horticultural Society certainly attempts too much, and in several things have always appeared to me to mistake the means for the end, and to be more anxious for display at their meetings, and in the garden, than for benefiting the country by the spread of useful knowledge or the introduction of new fruits or plants. The style in which their printed Transactions are got up is, I think, unsuitable for those who ought to be the principal readers of such a work; and I know they have given rise to an opinion, which I have frequently heard expressed, that the Society confined their views to improving the gardens of the rich. I like the Transactions of the Caledonian Horticultural Society much better, and I am told they have done more good to the great mass of society in the North than ours have done in the South. The London Horticultural Society, in many things, appear to prefer the most extravagant means of attaining their objects; we see this not only in their immense garden and expensive volumes, but in their proposal, noticed in your first Number, to publish the new plants which flower in the garden in an expensive work of their own. That they have a right to do so no one will deny; but would it not be more in the spirit of a society having the public prosperity in view, to publish their new plants in the botanical works already existing? I do not make the same objection to their proposed publication on fruits, though I should still prefer the fruits coming out as a part of the regular Transactions of the Society, instead of multiplying extravagant publications, not of use adequate to the expense.

I differ from your correspondent on the subject of the Society's sending out botanical collectors; in my opinion such can only be sent out by a joint purse, and as far as I am able to judge, this part of the business of the Horticultural Society has been better managed than any thing they have done. Had they confined themselves to this, and an experimental garden about twice the size of that at Hammersmith, I feel convinced they would have done much more good than ever they are likely to do with a garden of thirty acres to keep up; and to keep up for what? Certainly, as your correspondent observes, not as an example of a good plan. What then — to prove fruits? That could have been done, as you observe, in very little space.

I trust, however, that the evils of this Society are not yet past remedy. Only let a system of retrenchment and economy immediately take place, and let the outgoings not exceed three-fourths of the present income. Unless this is done, I predict that, in a few years, the consequences will be ruinous to the Society. Only conceive the tide of its popularity, now at the full, to be turned! Look at the expenses, as compared with the receipts, and say how long such a system can go on. As to finishing the garden on the plan contemplated, with all the hot-houses, dwelling-houses, lodges, &c., that I think entirely out of the question. Would 10,000*l.*, in addition to the sum already expended, finish it? No! Would an additional 20,000*l.* finish it? You hesitate! Suppose it were finished for that sum, will the advantages to the public be adequate to the expense? If the garden could be finished by subscriptions of the surplus incomes of the rich, certainly in that case I have nothing to say; but if the money is to be borrowed and repaid, or bestowed by the government, I as a Fellow of the Society, and the public as taxed for the gift, have a right to speak. I cannot help indeed regretting with your correspondent, that with the large income and very handsome subscriptions it should have been thought necessary either to borrow or to beg; and having both borrowed and begged, I do deplore the circumstance that with such means so little has been done; or rather so much done to so little purpose.

But your correspondent only hints at the assistance of government. If he means a loan from government to be repaid by the Society, why not borrow from individuals? If he means a gift, I for my part have a better opinion of ministers than to believe them capable of such a thing, at any time, and more especially in times like the present. How many societies would not be entitled to the bounty of government, before that bounty was conferred on one which has the refinement of luxury for its chief object?

These remarks, Mr. Conductor, are made in the hope that they will reach some of those members of the Society, who, like myself, wish to have it established on such a footing as that it may remain a permanent and useful institution; but who, unlike me, have influence and leisure to devote to the subject.

I am a sincere well-wisher to the Society, and
A Friend to Discussion.

August, 1826.

Art. XII. *Hints on the Superiority of the Rheum palmatum over the other Species of Rheum cultivated for Culinary Purposes.* By Anthony Todd Thomson, Esq. M.D. F.L.S. H.S. &c.

Dear Sir,

It is a fact well known to you, that although the use of the footstalk of several species of rhubarb for the purposes of confectionery be of recent date, yet it has become so general, that many waggon loads of the plant are annually sent to Covent Garden market, not only by the individual who introduced the use of it, but by many other market gardeners. On making enquiry respecting the species of Rheum commonly cultivated for this purpose, I find that it is the *undulatum*, and that the reason why the other species are not equally in request, is owing to the greater productiveness of the *undulatum*. Now although, in the present state of the case, this may be an excellent reason with the market gardeners for cultivating the *undulatum* only, yet, if the public be made aware that the leaf-stalks of other species of rhubarb are better fitted for the purposes to which the plant, in this state, is applied, than those of the *undulatum*, I am satisfied that it would be for the interest of the cultivators to regard the quality of the article rather than the bulk of the produce. I have tried the footstalks of almost every species of rhubarb now cultivated in Great Britain, and find that those of the *palmatum*, or officinal rhubarb, are superior to those of all the others for making tarts. They are more succulent, less fibrous, and contain a much larger supply of the rheumic acid than those of the other species; and, if it be less early in the season before they can be used, the roots continue to shoot forth leaves until a much later period of the year: indeed, if the flowering stem be cut down soon after it shows itself, the leaves are put forth so abundantly, and for so long a period, that the footstalks may be obtained until autumn. It is true that the supply of fruits fit for baking during summer and in autumn render the cultivation of rhubarb for this purpose less necessary; but I am one of those who think a good rhubarb tart a luxury at any season.

From the observations which I have been enabled to make respecting the cultivation of the Rheum *palmatum* in market gardens, and even in the garden of the Horticultural Society, I am satisfied that the general stunted appearance of the plants, which is the chief objection made to this species, depends, in a great measure, on the stiffness of the soil and the too free exposure of the plant to light. We are informed by Dr. Rehman *, who had the opportunity of seeing this species of rhubarb growing in its native soil and climate, the declivities of the chain of mountains near the lake Kokouor in Tartary, that the soil is light and sandy; and the Bucharians assert that the best grows in the shade, on the southern sides of the mountains. I planted two roots of the R. *palmatum* five years since in the open part of my small garden, and found that whilst they continued fully exposed to the influence of the light of the sun, the leaves were moderately expanded only, and the footstalks not more succulent than those of the other species; but on removing them to a part shaded by rose bushes, the leaves which have been put forth in each succeeding season have been very luxuriant. When in the best state for making tarts, the footstalks are green, slightly coloured with purple streaks, have a short fracture, and admit of the ready separation of the cuticle and cortex. It may be necessary to add, that although the root of this species of rhubarb be that which is employed medicinally, yet the footstalks have less of the flavour of the medicine than those of any of the other species.

If the attention of market gardeners be directed to the cultivation of this species of rhubarb, and the public thereby abundantly supplied with it at a moderate price, I have no hesitation in predicting that it will supersede every other; and your insertion of these hints will secure to you the hearty thanks of every one who, like myself, feels grateful for every elegant addition which can be made to the harmless luxuries of the table at a small expense.

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* Vide Mém. de la Société Impériale des Nat. de Moscow, 1809, tom. ii. p. 126.

I remain, dear Sir, yours, &c.
Anthony Todd Thomson.

91, *Sloane Street, May* 30. 1826.

Art. XIII. *On the Treatment of Cactus speciosus, speciosissimus, and other ornamental succulent Plants.* By Mr. W. J. Shennan, Gardener to Major Morison, at Gunnersbury Park.

Sir,

If you consider the following hints on flowering the Cactus speciosus, speciosissimus, and other succulents, worthy of a place in your Magazine, they are at your service. Two years ago a friend of mine from the country was much surprised at seeing our Cactus speciosus and speciosissimus flower so freely: he said that he had some large plants of both sorts, but they never flowered.

I communicated to him the following observations on our method of growing and flowering them; and I have lately had the satisfaction of hearing from him that they have this year flowered remarkably well. The compost is loam and peat with a little lime rubbish. We grow them in the stove until they get a pretty good size, or until we want them to flower, for they will flower at any age or size. In the month of June or July we turn them out of doors into a warm sheltered situation, and perfectly exposed to the mid-day sun; and there they remain till we take in our tender green-house plants, when we remove them to a shelf, or airy situation, in the green-house for the winter. In the spring we remove them into the stove or forcing-house in succession, as we wish them to come into flower. They will flower in the green-house; but the flowers are small, and the growth but slow, in comparison to those that are removed into a higher temperature. Their flowering depends, like most other things that flower upon their wood made the preceding year, upon its being well ripened and matured in the sun and air, and kept perfectly free from shade. C. speciosus fruits freely with us, and ripens its fruit about three months after flowering. C. speciosissimus requires longer time to bring its fruit to perfection. The flowers that were set last July twelve months with speciosus are now ripe and about the size of a hen's egg, and have a very rich and agreeable smell, resembling that of a pine apple.

That beautiful species C. truncatus seems to require less light than the others; it flowers at any size and at all seasons, without being previously set out of doors. Crassula falcata, with the same treatment, flowers freely with us about eight inches high. I am, Sir, &c.

W. J. Shennan.

Gunnersbury Park, near Ealing, Middlesex,
August 4. 1826.

Art. XIV. *On the Use and Abuse of watering Vegetables in dry Seasons, and on the Advantages of Shade to Culinary Crops in Times of great Drought.* By Mr. George Fulton, Gardener to Lord Northwick, at Northwick Park, Gloucestershire.

Sir,

As a reader of your very useful Magazine, may I beg to be allowed to offer a few remarks on the watering of vegetables, as applying more particularly to last year and the present dry season? Such seasons, I believe, have prevented a number of gardeners from raising any thing near the variety of vegetables usually in demand by the cook of a considerable family. The scorching suns of the longest days of the year, want of rain, and almost no dew in the night, are, no doubt, the principal causes of the failures that have generally taken place in the vegetable kingdom: but there are other causes, under particular circumstances, which I think ought to be noticed. One is the carrying to an injudicious extent, the watering of vegetables in very dry weather. How often do we see water thrown upon plants in the open air as it were at random, and frequently the earth washed away from their best roots? How compressed the earth becomes after repeated watering is well known, particularly in stiff or clayey soils. It seems against the economy of nature to water plants at all in a clear atmosphere and dry state of the air. Vegetables, instead of being refreshed, in the night become chilled, and actually scalded as it were in the day. The sickly appearance of plants under such treatment is soon visible, and the decay and death of many is the consequence.

Water is used too freely in dry seasons upon the stem of the plant, both by young gardeners and cottagers in their gardens: the former pours it on them without any other thought than what is necessary for the performance of the operation; while the latter thinks that in watering so much he is doing great things, although his cabbages are in the last stage of consumption before his eyes. All this is wrong; a variation in this, as in many other points of gardening, is better than uniformity of treatment. I have found that in the evenings sprinkling low-growing vegetables over their leaves, and alternately watering their roots, is a good method, if the surrounding air be in a moist state: but if the drought increases with much sunshine, it is better to withhold water for a time; then again to vary the system, by watering between the rows of vegetables, alleys, &c., which tends, in some degree, to produce a moist air and dew. This, however, should only be done in calm evenings, in order that atmospheric dews, and all exhalations from the earth, water, and vegetation may be promoted. Watering when clouds intervene is attended with good effects, and also when it actually rains; vegetation is, in the latter case, accelerated in a great degree.

Different kinds of shade have been used by gardeners in hot summers to protect vegetables, and I believe not without success. The practice of growing vegetables between beds of asparagus is, I think, a good one. I have, last year and the present, had cabbages, cauliflowers, dwarf peas of the Spanish sort, spinage, French beans, and lettuces, between asparagus beds, for a great part of both seasons, when they were scanty crops every where else in the garden. Therefore I consider that the above useful vegetable is not cultivated to the extent it ought to be, as, independent of its own use, it is also an excellent protection for vegetables in dry weather.

If, Sir, you think the above hints worthy of a place in the next Number of the Gardener's Magazine, I shall be glad of having, in some degree, contributed towards a work which seems to have for its chief object the improvement of gardening and the advancement of gardeners.

I am, Sir, &c.

George Fulton.

Northwick Park, near Moreton in the Marsh,
August 15. 1826.

ART. XV. *On a Devonshire Practice in planting Vines, and on the Use of Salt as a Manure for Arable Lands, and for renovating Grass Lawns.* By WILLIAM COLLYNS, Esq. Surgeon, Kenton, near Exeter.

Sir,

IN one of the Numbers of your very useful Magazine, there is a statement from a gardener, of the grapes in the garden he superintended having invariably rotted before they ripened, and of his having remedied this, by taking up the vines, and planting them at a less depth than they were before. Now, in this part of the county of Devon, vines are very commonly trained over the cottages, and they are planted in almost every garden; and it is a common rule with our labourers and gardeners, if the subsoil is not gravel at the depth of a foot or eighteen inches, to fill in the pits where vines are to be planted, to within that distance of the surface, with stones, gravel, broken pottery, &c. in order, as they say, to prevent the roots running too deep, as then the grapes will rot, and seldom ripen; whereas by such management it very rarely happens but that our out-door grapes ripen every season; and as a proof of its good effect, I have this day, August 18th, had gathered from a vine so treated some years ago, a very fine bunch of sweet water grapes, from a south wall, perfectly ripe.

Your notice respecting the sowing of the Salsola sativa, in Languedoc, is not correct; the inhabitants do not dread the corrosive powers of salt, but knowing how the soil is impregnated therewith, their practice is to sow the salsola with their wheat, that they may be sure of a crop, as, if the wheat fails, the salsola succeeds, and *vice versa*. You observe, too, from Mr. Bennett's statement to the Bath Society, that salt is not a manure at all, but merely a stimulant. Now I have proved its great value as a manure in arable lands that are light and sandy, and its astonishing power of recovering old pastures, and renovating the greensward in gardens, lawns, and pleasure-grounds, which I have detailed in a small pamphlet, printed by Mr. Woolmer at Exeter, one of which I will send to you as soon as I get a reprint, the others being all sold.

It occurs to me, that your notices respecting cottage economy may be valuably improved, by occasional notices of the medicinal effects of our indigenous plants, as affording cheap and useful remedies; and if that portion of *old woman's knowledge* which I possess can contribute to so useful a purpose, it is at your service. Sir, I am, &c.

WILLIAM COLLYNS.

Kenton, August 18. 1826.

The notice alluded to by our correspondent (*Gard. Mag.* 323.) is a translation from a note by the distinguished French agriculturist, Yvart, given in an edition of the Théâtre d'Agriculture d'Olivier de Serres, Paris, 4to. 1804, vol. i. p. 171. It coincides with the Agricultural Chemistry both of Chaptal and Sir H. Davy, and with our own observation and opinion. Salt may stimulate both arable land and pasture, without being a manure, or, in other words, a food for plants. We shall, however, be happy to see Mr. Collyns's pamphlet on the subject, to make known his experience to our readers, and to change our opinion on conviction.

We shall also be particularly obliged to our correspondent for suggestions as to cottage medicine from indigenous or common plants; and we think it might be useful to point out the native plants fit to cook with common food as spices or condiments; such, perhaps, as crow garlic, Alliaria officinalis, wormwood, &c. &c. Might not the tender tops of common clover, thorns, elms, &c. be rendered palatable by such means? and would not a decoction of common hay tea, which is known to be very nourishing, be rendered palatable by something easier or more universally to be got at than salt or sugar? We do not mean that these things can ever be either profitably or agreeably used as food, but we should like to know what could be made of them in seasons of great dearth, and in the uninhabited regions encountered by emigrants.—*Cond.*

ART. XVI. *On the Culture of Nerium oleander splendens.* By Mr. JAMES REEVE, Gardener to G. F. Evans, Esq. and Lady Carberry, at Laxton Hall, near Wandsford, Northamptonshire.

Sir,

PERMIT me to send you a description of a plant of the Nerium oleander splendens, which I have succeeded in flowering in a superior manner this season, and which I trust you will approve as being worthy a page in your interesting Magazine.

A cutting was sent me from Brighton, in a letter by post, in July 1823, which I immediately struck in water. — After it had taken root, I potted it in a light composition, and kept the pot standing in water. It was my object not to suffer it to flower, or form any head, till it attained the height of two feet, or two feet four inches; and therefore, during its growth to that size, I continually disbudded, observing at least to leave four buds nearest the top for the purpose of forming the head.

These four buds broke forth with much vigour, and shortly opened four umbels of fine flowers.

After flowering, I took it from the water, and placed it in its proper temperature to share the same attention and care as the common green-house plants, among which I allowed it to remain during the winter. In February, 1826, I removed it to 6 degrees more heat than its common temperature, at which time I reduced the ball of roots considerably, replaced it into its former pot, using the like composition as before, (the pot is of the No. 24 size,) and placed the pot again in water, in which situation it remained three weeks. I then removed it to an increased heat of 8 degrees, and it shortly after began to make a profusion of luxuriant shoots, on which umbels of flowers began to appear; and in the beginning of April it had absolutely become a complete picture, both in its growth, foliage, and bloom; and I much regret that a drawing of it was not taken while in its beauty, at the time it stood in the drawing-room of my employers, who bear testimony to the multiplicity of its flowers and general beauty.

On the 2d of May, when in its most perfect state, I counted the number of flowers and umbels, and found them to be as follows: viz. umbels, 18; flowers in full perfection, 48; buds not opened, 63. It continued in great beauty till the 4th of June, still having many buds not arrived at maturity.

I flatter myself I have also made considerable progress in a new system of working oranges, which at a future time may form the subject of another letter.

Meanwhile, duly appreciating the value and utility of your Magazine, and of the honour and advantage which they who profess the art of gardening may attain through its publication, I beg leave to subscribe myself, most respectfully,

Dear Sir, &c.

Laxton-Hall, June 14. 1826. JAMES REEVE.

ART. XVII. *On the Cultivation in England of the Carolina Wax Tree, with a View to its Produce in Wax.* By WILLIAM HAMILTON, Esq. M.D.

Sir,

CONCEIVING it the duty of every good citizen to contribute his mite to the good of the community of which he forms a part, either by personal exertion, or suggestions calculated to stimulate others to useful pursuits, I beg leave to call the attention of your experimental readers to the cultivation of a shrub which appears well suited to the mild climate of our southern and western, if not likewise of our northern and midland counties; and which, while adding considerably to our national resources, promises a rich harvest of reward to those whose public spirit leads them to prosecute the speculation with skill, industry, and spirit.

The shrub to which I allude is the Myrica Carolinensis, or Broad-leaved Wax Tree of Carolina, a hardy plant, perfectly acclimated in France, where it flourishes luxuriantly in a sandy and blackish turf, rising from the height of four to six or even seven feet, producing in general an abundant crop of berries every year, and requiring little care in its culture. It is readily propagated, either by sowing the seeds in spring, and afterwards transplanting, or, which is the most expeditious method, and equally successful, by taking off the young shoots, which rise in profusion at the base of the larger shrubs, and planting these out at the distance of about three feet from each other. The Myrica Carolinensis succeeds wherever the soil is light and rather moist; and has been long known to flourish even in the dry sands of Prussia. In this latter kingdom, as we learn from an interesting memoir of Charles Louis Cader, inserted in the Annales de Chimie, it was successfully cultivated by the late Mr. Sulzer in a garden on the banks of the Spree, half a league from the city of Berlin, in latitude 52° 53′, which is nearly a degree and a half farther north than London, and where the mean annual temperature is only 2° 9′ higher than that of London. Here the wax tree attracted the peculiar notice of every visitor by the delicious odour of its leaves, which they preserved a long time, and the fragrance of its berries. The wax obtained from these berries was also so highly odoriferous, that a single candle formed from it not only perfumed the room in which it was lighted during the period of its burning, but also for a very considerable time after it was extinguished.

From what has been said we may, I think, fairly conclude that this valuable plant is capable of being successfully cultivated in the light sandy soils of a considerable part of Hampshire, in the Isle of Wight, in the vicinity of Plymouth, and in many parts of the open, and, at present, neglected tract in the neighbourhood of the Lizard, where acres, now not worth 2*s.* 6*d.* an acre for their produce above ground, might be made almost to rival on their surface the wealth which they conceal in their bowels.

In America, to which we are indebted for this valuable production, a very fertile shrub will yield nearly 7lbs. of berries, 4 lbs. of which yield 1 lb. of wax. This, when melted, is of a greenish yellow colour, and of a firmer consistence than bees-wax. Candles made of it give a white flame and good light without smoke, and do not gutter like tallow candles. When quite fresh they afford a balsamic odour, which the inhabitants of Louisiana esteem highly salubrious.

The following is the simple process by which the wax is separated from the berries. Having collected a sufficient quantity, they are thrown into a kettle and covered with water to the depth of about six inches; the whole is then boiled, stirring the grains about, and rubbing the berries against the sides of the vessel to facilitate the separation of the wax, which rises to the surface of the water like fat, and is skimmed off with a spoon, after which it is strained through a coarse cloth to free it from impurities. When no more wax rises, the berries are removed with a skimmer, and a fresh supply put into the same water, taking care to add boiling water to supply the place of that evaporated during the process, and changing the water entirely after the second time. When a considerable quantity of wax has been thus obtained, it is laid upon a cloth to drain off the water still adhering to it; after which it is dried and melted a second time to purify it, and is then formed into cakes for use.

Such is the process for obtaining this vegetable wax, which, besides its value as an article for the manufacture of candles, and serving even better than tallow for making the finest soap, is, from a degree of astringency which it possesses, better suited perhaps than common wax for the composition of some plasters, in which this quality is desirable.

Should these hasty remarks prove the means of directing any of your numerous readers to the cultivation of this valuable shrub in some of the waste and hitherto unproductive lands of this country, it will afford much satisfaction to,

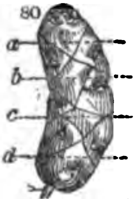
Sir, &c.

Fareham Place, near Plymouth, WILLIAM HAMILTON.
May 15. 1826.

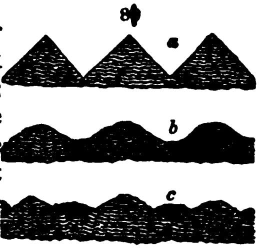
ART. XVIII. *On the Culture of the Early Potatoe as practised in Lancashire, and on the Mode of cooking the Potatoe there.* By R. W.

IN the western parts of Lancashire, two very early potatoes are cultivated, the small round (I am unacquainted with its particular name), and the Lady's Finger, or Early Rufford Kidney potatoe. Both sorts are excellent, as all Lancashire men will testify, and are produced and brought to market as early as May and June. I will speak particularly of the Lady's Finger, or Early Rufford Kidney potatoe. A cultivator may pursue a similar plan with the other if he deems fit.

It is well known in Lancashire to some, though I believe to very few, cultivators of the potatoe, that different eyes germinate and give their produce, or become ripe at times varying very materially, say several weeks, from each other; some being ripe, or fit for use, as early as the middle of May, and others not till June or July, as may be best shown by the accompanying sketch.



The sets nearest the extremity of the potatoe (*fig.* 80. *a*) are soonest ripe, and in Lancashire are planted, as hereinafter mentioned, in warm places in March or the beginning of April, and are ready for the market about the 12th or 15th of May. The produce of the next sets (*b*) are ready in about a fortnight after, and those from the root end (*c* and *d*) still later. These root-end sets (from *b* to *d*) are usually put together, and the extremity of the root end is thrown aside for the pigs. The eye of the set or plant should be near the middle of the cut, and a moderate portion of the tuber round each bud, as shown in the sketch, is sufficient. In a certain part of Lancashire this potatoe is cultivated with peculiar care, and some growers shelter the young plants with hurdles and hedges of furze here and there, to protect them from the cold winds, and sometimes even cover them with mats during the night. The sets are there planted in the month of March or beginning of April as before stated, in drills of twenty-four drills in twenty yards, and of sixteen inches to the top of the drill in the following manner. After the drills are formed (*fig.* 81. *a*) loose earth is brushed with a spade, or harrowed down, to the depth of six inches in the interval between them (*b*); dung is then placed over this loose earth, to the depth of four or five inches (*c*); the potatoe sets of the earliest degree (*fig.* 80. *a*) are then laid on the manure, at four or five inches apart, for the early crop, and sets of the second degree (*fig.* 80. *b*), at from six to eight inches apart, for later crops, and so on



The sets for the early crop are then covered with a spade to the depth of two inches, and subsequently covered at two or three different times to the depth of about five inches. The second and third crops are usually covered with the plough.

Some lay the potatoes intended for plants early in the year, before they are wanted to be cut, loose and separate on straw, or on warm boarded floors, and others put them on flakes or frames in warm situations near the fire, for the same purpose, in order that they may sprout, and when so sprouted to the length of half an inch or an inch, they are then carefully cut as described, assorted and planted.

Some of the growers, who take great pains in the early production of this potatoe, obtain in Manchester market two or three shillings per pound, and from their delicacy they are worth the money.

You will not fail to observe, that part of the potatoe near the root or runner end, as per section, is of no use whatever for sets or plants, yielding only stems, and small potatoes not worth cultivating: in cutting the sets this part is usually thrown into a fourth vessel, and given to the pigs.

Perhaps the Lancashire mode of dressing early potatoes may not be unacceptable to some of your readers. "Brush off the skins, set them on the fire in cold water: when boiled, pour off the water completely, add a little salt, and dry them well on the fire." An iron pot, I conceive, is the best vessel for the purpose, and the sooner they are eaten with cold butter the better.

I am, Sir, &c.

R. W.

London, Feb. 11. 1826.

Art. XIX. *Description of a Pine Pit, to be heated by Steam, erected in Shugborough Gardens, Staffordshire.* By Mr. Andrew Johnston, Journeyman Gardener there.

Sir,

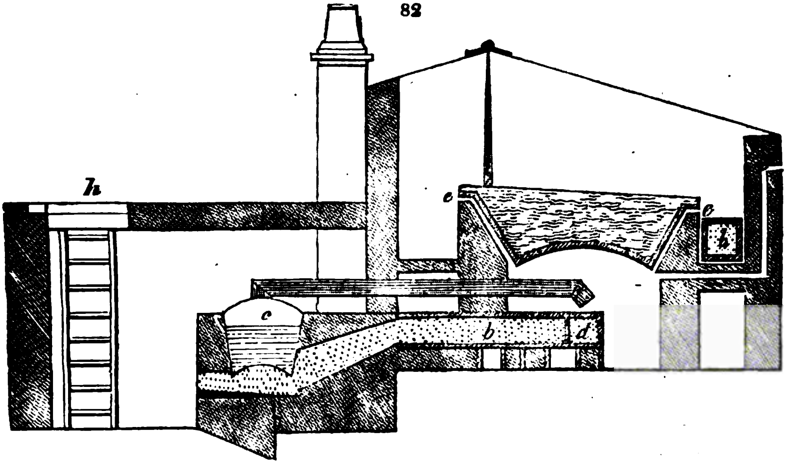
I enclose the following plan of a pine pit, (*figs.* 82. and 83. engraved from sketches, remarkably well delineated, which I hope you will consider not unworthy of a place in your very valuable Magazine. It has not as yet appeared in any publication, although one of a very similar nature has been sent by Mr. M'Murtrie to the Horticultural Society; and, I dare say, will soon appear in their Transactions: but as their reports have but a very limited circulation, when compared with that of the Gardener's Magazine, permit me to hope that a few brief observations on the steam-houses in Shugborough Gardens, together with the plan and references of the one that is submitted to your inspection, (which only differs from those here by being formed on a still more economical plan,) may not be unacceptable to the generality of your readers, particularly such as are not members of the London Horticultural Society.

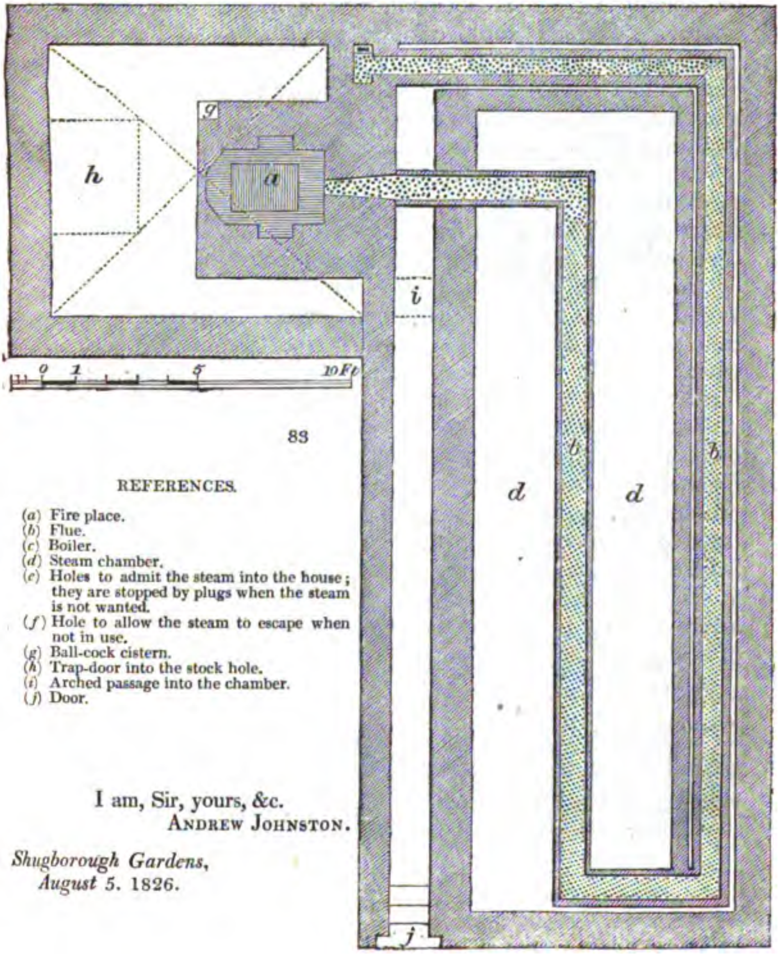
The steam-houses at Shugborough were originally built for the cultivation of the melon and cucumber, both of which do remarkably well in them; better, I think, than I ever saw them do in a hot-bed frame. But this will not be a matter of surprise when it is understood that both fire heat and steam can be applied together or separately as necessity may require. But what is still more worthy of remark is the astonishing growth of the pine-apple plant in these houses. It will hardly be credited when I assert that they do much better in them in winter than they do in the dry-stoves in summer. The best proof that I can give of the truth of my assertion is, that we have this season, on the 1st of August, cut a New Providence pine weighing twelve pounds and a half avoirdupois weight, outweighing the one cut last year by twelve ounces. This is one instance out of many that might be adduced to prove that they are the best houses for the pine; and not only for the pine, for they are equally well calculated for the melon and the cucumber, and also for the early forcing of asparagus and other plants.

Every practical gardener is aware that the vine grows much more luxuriant in a moist heat than in a dry atmosphere; of necessity, the vine will require a larger house than any of the preceding. The simplicity of their construction is a matter of no little consequence, no engineer being necessary; almost any bricklayer and plumber are sufficient for the undertaking.

The steam pine pits, of which the following is a plan, are now building in the gardens of the Earl Talbot at Ingestree. They were designed by Mr. M'Murtrie, and only differ from those in the gardens at Shugborough by having the back part of the roof covered with slates, which will be less expensive and more durable than glass. It may also be necessary to add, that the boiler for a house of this size should *boil* thirty gallons of water, and be supplied by a ball-cock: the lid should be screwed on tight, that no steam may escape, unless by the pipe into the chamber; the diameter of the aperture of which should be six inches, so as to admit the steam freely, and render a safety valve quite unnecessary.

82





83

REFERENCES.

(*a*) Fire place.
(*b*) Flue.
(*c*) Boiler.
(*d*) Steam chamber.
(*e*) Holes to admit the steam into the house; they are stopped by plugs when the steam is not wanted.
(*f*) Hole to allow the steam to escape when not in use.
(*g*) Ball-cock cistern.
(*h*) Trap-door into the stock hole.
(*i*) Arched passage into the chamber.
(*j*) Door.

I am, Sir, yours, &c.
ANDREW JOHNSTON.

Shugborough Gardens,
August 5. 1826.

Art. XX. *Remarks on the Treatment Under-Gardeners receive from their Masters.* By G. R. G. Journeyman.

Sir,

I here venture on giving you some remarks upon the treatment under-gardeners are subject to from the gardeners, their employers, in noblemen or gentlemen's gardens; not taking these from how I am at present situated, but partly from my own past experience, and partly from my knowledge of the treatment of others. You remark, in your introduction, that "it is a common complaint amongst gardeners that they are not sufficiently paid, and that a man who knows little more of gardening than a common labourer, is frequently as well off as a man who has served a regular apprenticeship to his business. This is perfectly true, where the gardener is nearly or equally devoid of elementary instruction with the labourer." Here I would ask, do gardeners who have men under them stimulate or encourage the taste which the employed men have? Do they at all study to disseminate that knowledge amongst them which themselves have acquired? No, they fall very far short of acting in such a generous way; nor are they by any means the more assiduous in urging them on, although they may have obtained "elementary instruction." That good fruit may be produced for market, care and attention are required by the cultivator, let the soil or climate be ever so good. On the same principle I would urge the tuition of gardeners, even if employed in first-rate places. It is a thing, which too frequently occurs, where there are four or eight hands kept, that one in the former number, or two in the latter, may have it in their power to improve themselves; while all the remaining individuals are deprived of the possibility of making a single effort for their improvement. Whereas, were the master to act discriminately, he, without curtailing his own privileges, or contracting the advantages of the one or two mentioned, or in the least degree acting unjustly towards his employer, might, with a very few exceptions, enable all under him ultimately to arrive at what is so particularly your wish — the full capability of filling first-rate situations with advantage to the proprietor.

March 17*th*. G. R. G.

Want of room prevents us from inserting the whole of a second communication received from G. R. G. on the same subject. Being desirous, however, of encouraging every effort in a young man to improve himself, and of assisting to Macadamise the road, as G. R. G. expresses himself, for the improvement of others, we quote his leading argument. "One thing only is wanted in order to render under-gardeners intelligent and moral, and that is, pay for their labour at the same rate that other journeymen tradesmen are paid for theirs." G. R. G. has entered into various details to show that the wages of gardeners ought not to be inferior to those of bricklayers and carpenters, and one of his arguments is, that gardeners require fully as much previous education as they do. Our young friend, however, should not overlook the difference between the prospect of a journeyman carpenter and those of a journeyman gardener; the former, in general, can look forward to nothing beyond that of a journeyman, or, if he becomes a master, it is in consequence of having been so long a journeyman as to have saved money: the journeyman gardener, on the contrary, after he has been two or three years out of his apprenticeship, mounts at once into the condition of master, and, if he has attained a first-rate situation, he is perhaps as well off at twenty-five as an industrious journeyman carpenter at forty-five, because it would probably require that time before the latter could save sufficient money to enable him to become a master. The fact is, that while other tradesmen require both skill and capital to assume the condition and reap the advantages of a master, the gardener requires skill only. Knowledge, therefore, to the gardener is money as well as knowledge; it is both skill and capital; and it will not be denied that skill can be acquired by labour of the mind sooner than capital by labour of the body. Hence the profession of a gardener has peculiar advantages for those who engage in it with a proper degree of scholastic education; and hence also, if gardeners were as well paid as carpenters and bricklayers, the market would soon be overstocked with them. The price given for any description of labour will, in the long run, always be found a just price. But while we state this, we know it to be perfectly true that a journeyman gardener can barely exist upon his wages. We consider it highly commendable in G. R. G. to use every argument in favour of raising them, and we certainly think if they were raised, the masters would be gainers as well as the journeymen. In all businesses a man works according as he is paid; and all political economists agree that it is better for a country that the wages of labour should be high than low. We have received a clever paper on this subject from "SENSITIVA," which we regret we have not room for in this number. In the meantime, as no general improvement in the wages of journeymen will probably take place in time to benefit G. R. G., we recommend him to continue to store his mind with all kinds of knowledge that he can bring to bear upon his profession. — *Cond.*

Art. XXI. *Reasons for not subscribing towards the Formation or Support of the Garden of the Horticultural Society of London, with some Remarks on the Management of the Society generally.* By Mentor.

Sir,

Presuming the pages of your Magazine to be open to the discussion of every subject relative to horticulture, I send you the following observations as containing my reasons for not subscribing towards either the formation or support of the garden of the Horticultural Society of London, as also some remarks on the management of the Society generally.

Having been elected a Fellow prior to the establishment of the garden, I have lately received a circular from the council, reminding me that former applications from them relative to the garden are still unnoticed, and enclosing to me certain explanatory notes relative to the mode in which each class of the Fellows are to be treated, so far as regards the amount of their donations and subscriptions thereto. Now, as I reside very many miles from London, I cannot, under those regulations, have any inducement either to increase my subscription or become a donor, for I consider the original Fellows of the Society, or at least such of them as have not thought proper to increase their subscriptions, have been very unceremoniously turned to the right about, and shorn of an equal share of the privileges which they were entitled to expect by the charter, notwithstanding the great exertions they have made, jointly and severally, to promote, as much as in them lay, its interests and well-doing, and having by their great and constant attention assisted mainly in placing it on the high ground on which it at present stands; while those Fellows who have been elected since the formation of the garden, who have merely complied with the regulations *existing at the time of their admission*, but who have not once pulled at the labouring oar by which the Society has been called into notice, are allowed advantages which I am decidedly of opinion (and I am not singular in this respect) they are not by any means exclusively entitled to. And further, I firmly believe that by the expensive principles on which the garden is now conducted, the seeds of its own ruin are already sown, unless indeed the government should fortunately be disposed to grant a *large* annual allowance to make up the great defalcation which must ultimately take place in the finances of the Society without such assistance. I say *fortunately*, not because I approve of accepting any such allowance, as it would in my opinion totally destroy the independence of the Society, but because without such aid I believe the garden cannot be proceeded with, at least on the present *extended, extending, and magnificent scale.* Yet even this support, if attained, cannot be considered as permanent, as we have already seen in the fate of the Agricultural Society. I expect also that the finances of the Society will suffer by a falling off in the sale of the Parts published, which may arise from two causes, viz. first, from the increased number of Fellows, many of whom, before they became so, were in all probability purchasers; and, secondly, the papers published are by no means so interesting to the generality of readers as they formerly were, when several persons were each contributors of *short papers* founded on their own personal knowledge of the facts therein stated, instead of which the *Parts* are now principally filled with papers relative to the progress of the garden, and of the fruits and flowers therein cultivated, the major part of which may possibly be ornamental, but certainly cannot be considered useful. So that instead of the public drawing information through these publications from every part of the kingdom on subjects of Horticulture, they now obtain little more than observations and memoranda of what has been done in the Society's garden.

In making the foregoing observations, I have no sinister or hostile views towards the Society; on the contrary, I should feel gratified by assisting to uphold it: but I must repeat that I cannot by any means consent to do so, while I so highly disapprove of the regulations which have been introduced, apparently to force the money from the pockets of the original members; for with no other view could the *asterisk* be affixed to the names (in the List of Fellows) of those persons who have complied with those regulations. I object also to the great outlay which has so inconsiderately taken place in the formation of the garden without funds to support it; and as it never was originally intended to form a botanical collection of plants, I do not, under any circumstances, approve of sending botanical collectors to foreign parts, to search for what? not for the useful, but merely for the rare or beautiful. And you are perhaps aware that doing this is entirely in opposition to the opinion of the late highly esteemed and highly valued Sir Joseph Banks, who carried his partiality to the "useful" so far as to express his opinion that a coloured plate of a *flower* should on no account be introduced into the Society's Transactions: and although I do not entirely agree with this doctrine, yet I am decidedly of opinion that *flowers* or *fruits* requiring a very high temperature should only occupy the second place in the consideration of the council, and that their attention should be principally directed to the improvement of the fruits and culinary vegetables, which it is probable may be brought to perfection in the latitudes of the united kingdom.

All that has been said about a paid secretary I think of no value, as it is my opinion, founded on the experience of some years, that business of every kind is always best and most promptly executed when *very few* persons are concerned in it; and a hired secretary would not only be without power to act, but from want of that power he would not exert his energies to their full and necessary extent; and I believe, however high such a person might stand in point of talent, or however large his remuneration might be, he would not so completely devote himself to the Society's service as the present honorary secretary does, and I am satisfied that the Fellows ought to be very much obliged to him for so much gratuitous time bestowed on the business of the Society: but I nevertheless cannot help remarking that his zeal has, I think, carried him beyond the boundary originally intended by the charter, or by a large majority of the present Fellows; and although it may be difficult, and certainly unpleasant, to recede from the high ground he has taken, yet it would be better to do so gradually than be let down at once *by the run*, and which, if the present system of extravagant expenditure is persevered in, must ultimately, and at no great distance of time, be the case.

If the foregoing remarks, containing my reasons for not increasing my subscription, are deemed worthy of publication, they may possibly, by being widely disseminated through the means of your Magazine, open the eyes of many Fellows of the Society to the real state of its concerns, and tend ultimately to reduce the expenditure within the bounds of prudence, and yet retain the power of pursuing every truly desirable object that can be expected to be derived from it; and that this may be speedily accomplished is the sincere wish of,

Sir, &c.

MENTOR.

August 31. 1826.

PART II.

REVIEWS.

Art. I. *Transactions of the Horticultural Society of London,* Vol. VI. Part II. London, July, 1825. 4to. 1 Plate.

The principal feature of this part is a paper on strawberries by Mr. James Barnet, which occupies eighty of its 133 pages. The plate is a plan and sections of a conservatory.

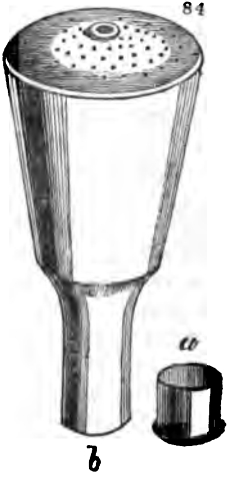
9. *An Account of a new Seedling Grape. In a Letter to the Secretary.* By Mr. Henry Burn, F.H.S. Gardener to the Marquess of Ailesbury, F.H.S. &c. at Tottenham Park, near Marlborough. Read December 6. 1824.

This excellent grape, known as the Tottenham Park Muscat, is the produce of seeds of the muscat of Alexandria, sown in 1819. It is considered equal, if not superior, to the old muscat in point of size, both in bunch and berry, and to surpass it in flavour.

10. *An Account of a Lime Duster for the Destruction of Insects on Fruit Trees. In a Letter to the Secretary.* By Mr. Samuel Curtis, Glazenwood, Coggeshall, Essex. Read August 20. 1824.

This utensil (*fig.* 84.) is made of tin, 12 inches long, 7 inches wide at its broadest, and 4 inches across its narrowest part. The handle is 5½ inches long, and to the top of it is fitted a cap (*a*), which is put on when the lime is to be thrown on low trees; but when high trees are to be operated upon, the cap is removed, and a pole, of sufficient length to reach the height required, is inserted into the handle. The time for dusting trees with powdered lime is in the dew of the morning. The caustic quality of the lime does not injure the most delicate, fresh-expanded foliage; it is only prejudicial to insects of all kinds, and to dead vegetable matter. Mr. Curtis, by the application of lime dust with this machine, destroyed the caterpillars over a

84



whole orchard, giving one dusting just before the blossoms were expanded, and one or two after the blossoms were over and the leaves expanded.

The same utensil may be used for dusting powdered brimstone on trees or plants infested with the mildew, or for scattering salt, tobacco-dust, &c.

11. *On forcing Cucumbers. In a Letter to the Secretary.* By Mr. Thomas Allen, F.H.S. Read January 4. 1825.

In growing cucumbers under lights, " the most obvious defects," according to Mr. Allen, are " compost of too light a quality," and " dung not sufficiently worked before it is earthed over." Mr. A. has been in the habit of growing early cucumbers under frames on common dung beds for twenty years, always producing abundance of fruit from March till October. In 1823 he worked seventy lights for the London market, the produce of which was 3360 cucumbers, or four dozen to a light, " a greater product than is usually obtained by any of the ordinary methods of treatment." The beds are made in December or January, the hot horse-dung having been previously turned and watered five or six times. Before earthing it, round flat mats about fifteen inches in diameter, formed by coiling up a band of straw one inch in diameter and ten feet long, are to be prepared and placed on the dung, under the centre of each light. Rye straw is preferred for these mats, as it does not encourage mice. A bushel of compost, consisting of loam and rotten dung, is placed on each mat, and one plant, in preference to more, on the top of each hillock. The top of the plant should be left three inches from the glass; the mould should then be dressed up round the hillock and be pressed close to the roots, and within one inch of the seed leaves of the plant: these, at no time of earthing, should be covered, for this is very apt to cause canker. The earth should be kept within the bounds of the straw mat, and not be suffered to mix with the dung, as that would cause a burning, which is not only troublesome, but in many instances fatal to the prosperity of the plant; because, if the earth is once burnt, its vegetative quality is destroyed, and water will have no effect on it. The only remedy in such a case is to remove the mould, fork up and water the dung, lay on a little rye straw, and replace the earth.

After ridging out, from one quarter to one inch of air is given in the day, and about one quarter during the night. The covering must be very slight for the first three or four weeks, and must not hang over the sides.

" The heat must be kept up by augmenting the linings once a week, turning over and watering them, when they heat so as to become dry. The bed inside the frame will require forking up about nine inches deep, three times a week: the hillocks at the same time should be examined, and a round pointed stick of about an inch in diameter, and eighteen inches long, must be thrust about twelve inches into the dung, under the straw mat, making five or six perforations under each hillock. Into each of the holes so formed, pour from the spout of a water-pot as much water as the state of the bed seems to require; this may be ascertained from the facility with which the perforator goes into the bed. If the bed is husky, or burning, the stick will go in with difficulty, and then a large pot of water is required to a hillock; on the contrary, if the bed is in a free state of working, the perforator will go into it very easily, and then a sprinkling from the rose of the pot will be sufficient."

A great object of Mr. Allen seems to be to sweeten, rot, and moisten the dung under the frame, for the roots of the plants, while the heat is principally supplied by the linings.

"The dung," he says, "from the continued forking and watering, will become in a fine state to receive the roots of the plants; these, after passing through the proper depth of compost placed over the dung, which is about eight inches, will readily strike into the dung, and bear a productive crop of cucumbers throughout the summer, without their leaves flagging or requiring any shade. For ascertaining the proper period to make additions to the earth, the best criterion is the appearance of the roots through the sides of the hillock. This should be earthed over about three inches, each time forking out the dung two inches below the mat, to give a greater depth of earth each time of performing the operation. The last time this is done the depth of mould at the back of the frame should be twenty inches. It will be necessary to raise the frame and lights as the plants advance in growth."

Water should be given plentifully three times a week, without wetting the leaves or fruit, "pouring it against the back of the frame, for the mould will dry faster against the back than the front, in consequence of the heat being there greater, and the air being admitted there."

"In pruning, the runners should not be cut or thinned out, the tops only should be pinched, and at every joint, beginning when the plant has two rough leaves, and the second rough leaf is about an inch in diameter. That will cause the plant to produce a fruit and fresh runner in succession at every joint; it will likewise add to the strength of the plants."

Pinch off the tendrils and male blossoms, and fecundate artificially in the early part of the season.

The sort of cucumber which Mr. A. finds the most productive is the Southgate, and he prefers seed three or four years old to new seed.

12. *Description of the different Varieties of Endives cultivated in the Garden of the Horticultural Society of London, in the Year* 1824. By Mr. Andrew Mathews. Read December 21. 1824.

Mr. Mathews is one of the Society's garden clerks, and it is gratifying to see young men so circumstanced stimulated and encouraged to produce papers of this kind. They are precisely the sort of papers that young men are best calculated for, and which, when well done, will do them the most good, by whetting the faculty of attention, and quickening the powers of comparison and discrimination. Mr. M., since he finished his paper, no doubt sees many things in endives which he did not see before he began to study them, and which those who have not attended to endives, as he has done, cannot see. Let him and others reflect from this, how much our knowledge of any object or subject depends on our close and continued attention to it, and how very imperfect must be our judgment on a great number of subjects, to which, from various causes, we have not paid more than ordinary attention.

The Cichorium endivia, a native of the northern provinces of China, is the parent of all the European endives. They have been cultivated in Europe from time immemorial as salad plants: and the different varieties may be classed as Batavian Endives (*Scaroles*, Fr.), which include all the broad-leaved kinds; and Curled Endives (*Chicorées*, Fr.), which include all those with narrow leaves more or less divided, and much curled. Mr. M. describes five sorts of the first, and seven sorts of the second variety. The twelve varieties described, seem all pretty nearly of equal merit, unless we except the "Small Batavian Endive" (*Scarole petite*, *courte*, or *ronde*, Fr.), of which Mr. M. says, "This is certainly the best of the endives, and a valuable addition to our winter salads; it blanches with little trouble, and is mild and sweet, without being bitter."

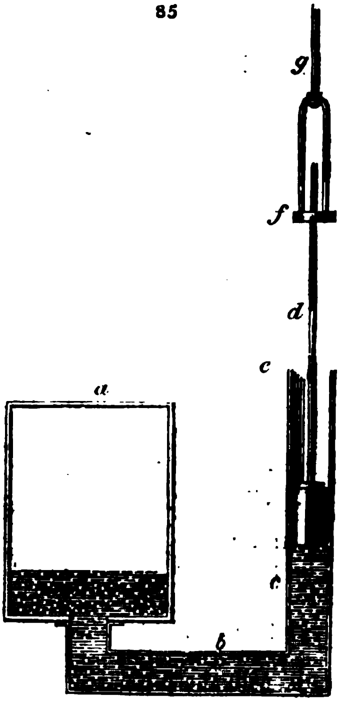
13. *Description of a newly invented Instrument for effectually applying Tobacco Fumigation to Plants.* By Mr. John Read, of Newington Causeway, Southwark. Read July 6. 1824.

This addition to Mr. Read's syringe is already figured and described in our Encyclopædias. Fumigation is the only one of the numerous uses to which this most valuable instrument can be applied, which does not succeed so perfectly as could be wished, a glutinous liquid being formed during the operation, which prevents the free action of the valves. Notwithstanding this, however, the instrument may be successfully used for so many purposes, that it ought not only to be in every garden, but in every dwelling-house, and ship. Besides garden purposes, it may be used as a forcing pump, sucking pump, for giving enemas either in surgical or veterinary practice; for relieving hoven cattle; for extracting poison from the stomach; for injections of different kinds; for annoying an enemy or dispelling a mob by the discharge of offensive liquids; and for extinguishing fires. Mr. R. has published a pamphlet on its various uses.

14. *Description of a self-acting Ventilator for Hot-houses.* By John Williams, Esq. C.M.H.S., of Pitmaston. Read April 6. 1824.

The intention of this ventilator is to guard against extremes in the absence of the gardener. It is effected by the expansion and contraction of air in an air-tight vessel (*fig.* 85. *a*), communicating with a cylinder and piston (*b*, *c*, *d*), which, by means of a rod (*g*), operates on the ventilator, or sash, to be opened. The use of the water, or other fluid, is to confine the air, and by that means, when the air expands or contracts, it operates upon the piston. By means of an adjusting screw (*f*), the register may be made to open at any required degree of heat. The air-vessel (*a*) should contain several gallons, according to the size of the valve, or register, to be opened. When first used, the vessel must be heated sufficiently to expand the internal air; water is then to be poured in at the top of the cylinder (*e*), so as to give the required motion to the float; and about half an inch of fine oil must be laid on the top of the water (at *c*) to prevent evaporation.

85



" The vessel must be placed in front of the upper part of the back wall, and at all times fully exposed to the light. If the apparatus is of proper size, nicely constructed, and filled with a proper quantity of water, the registers, one being placed in the upper part of the back wall for the escape of the heated air, and the other near the floor of the house for the admission of cold air, will open and close again several times in the course of the day, particularly when the weather is showery, with intervals of bright sun."

A common smith, who understands hanging house-bells, and a tin-smith, will make and put up such a machine as this without difficulty and for little expense. We have noticed a similar contrivance by Mr. Mugliston, (p. 173.) which Mr. Williams had not seen till after he invented the above.

15. *An Account and Description of the different Varieties of Strawberries which have been cultivated and examined in the Garden of the Horticultural Society of London.* By Mr. James Barnet, Under-Gardener in the Fruit Department of the Garden. Read December 7. 1824.

This is one of the most elaborate papers which has yet appeared in the Horticultural Transactions; and it is valuable, because it relates to one of the most wholesome, universally attainable, and easily cultivated of hardy fruits. What the Society have done with regard to the strawberry, shows what they are capable of doing, and what they will render a great service to the country by doing, with the gooseberry, apple, pear, and other fruit-bearing trees.

The exertions which were made to procure as complete a collection as possible of all the strawberries known in the gardens of the united kingdom, are worthy of notice as a specimen, and as an example to others, of the methodical, indefatigable, and successful exertions of the secretary. A printed form, on which was to be noted the names, characters, history, &c. of the different kinds of strawberries in the possession of each individual, was sent to all who are known to be attentive cultivators of strawberries. Upwards of seventy of these forms were filled up and returned, from which a variety of useful information was procured, and upwards of four hundred parcels of plants sent for. These were obtained and planted in the spring of 1822, and were studied and compared by Mr. Barnet during the seasons of 1823 and 1824. The result is a general classification of strawberries under the following seven divisions: —

1. *The Scarlet (fruited) Strawberries.* Fragaria Virginiana and F. Canadensis. Leaves nearly smooth, dark green, of a thin texture, with sharp-pointed serratures; fruit small, bright coloured, acid, and slightly perfumed. This class includes twenty-six sorts.

2. *The Black (fruited) Strawberries.* Leaves rugose, pale green, and small; fruit middle-sized, conical, dark-coloured; flavour very rich, and highly perfumed. Five sorts.

3. *The Pine (or pine-apple-flavoured) Strawberries.* Leaves almost smooth, dark green, of firm texture, and with obtuse ser-

ratures; fruit large, varying from almost nearly white to almost purple; flavour sweet and often perfumed. Fifteen sorts.

4. *The true Chili Strawberry.* F. Chiloensis. This species has not yet sported into varieties. Leaves very villous, hoary, with small leaflets of thick texture and obtuse serrature; fruit very large and pale; flesh insipid in the type or original species, but in the new kinds which have been raised from it by cross impregnation, such as Wilmot's superb and the Yellow Chili, it is better.

5. *The Hautbois* (*haut-bois, high-wooded or high-stalked*) *Strawberries.* F. elatior. Leaves tall, pale green, and rugose; fruit middle-sized, musky flavour. Five sorts.

6. *The Green Strawberries.* F. collina. Leaves pale light-green, and strongly plaited. Cultivated by the French, and sometimes by us, under the name of green pine, or pine-apple (shaped) strawberry.

7. *The Alpine and Wood Strawberries.* F. semperflorens, and F. vesca, differing chiefly in the shape of their fruits, which are usually conical in the former and more globose in the latter. " There are red and white fruited varieties of each. The Alpines produce fruit in the autumn, which the Wood strawberries do not. We have of late received from France several varieties. It is to these kinds that the attention of the French gardeners is almost exclusively directed."

Mr. Barnet has not described any of the kinds belonging to the two last divisions; but of the first five classes he has described fifty-four sorts, with their synonyms, amounting to two hundred and forty names; and he adds, that with the two classes unnoticed, and the varieties of other classes yet undescribed, which are either at present in the garden of the Society or elsewhere, the list may be extended to near one hundred kinds.

It would be of little or no use to our readers to give the names of all the sorts described; but we shall give Mr. Barnet's selection from them, as a guide to those who cultivate (and who does not?) this excellent fruit.

" *Scarlets.*—Old scarlet, Roseberry, Carmine scarlet, Grove End, Duke of Kent's, Grimstone, American, Hudson's Bay, Cockscomb, and Wilmot's late scarlet.

" *Blacks.*—Pitmaston and Downton.

" *Pines.*—Bostock, Surinam, Old Pine, Keen's Seedling, and Round White Carolina.

" *Chilis.*—Superb.

" *Hautbois.*—Prolific and Flat.

" If to these twenty sorts were added plantations of Red Alpines and White Alpines, the whole would form a more perfect collection of strawberries than has probably ever existed together in any one garden. It is to be observed, that flavour has not been the only property attended to in the above selection; certain kinds, though deficient in that important point, have been included, because of their superior productiveness, it being considered that quantity, as well as quality and variety, is usually required."

The old or common scarlet is considered as the best for flavouring ices. For preserving, the oblong scarlet, Methven scarlet, and Vernon's scarlet; and for jam, Bishop's seedling scarlet, are recommended.

The roseberry, when forced, and the plants turned out, generally bears a second crop in the autumn; the Grove End is one of the best strawberries for forcing; the Duke of Kent's scarlet is the earliest of all the sorts, ripening at least a week before the old scarlet; the Grimstone scarlet has the sweetest fruit, and the Scone scarlet contains more acid than any other known strawberry. The Bostock is the greatest bearer, but it is destitute of flavour; the roseberry and Downton are also great bearers; the latter preserves well, makes sweetmeats of great excellence and richness, and mixes particularly well with cream.

Mr. Barnet is gone down to Scotland: supposing he had been going to Botany Bay, with permission to take only three sorts of strawberries with him, what sorts would he have chosen? the old pine, the old scarlet, and Keen's seedling? We will thank Mr. B. for his opinion on this subject for our next Number.

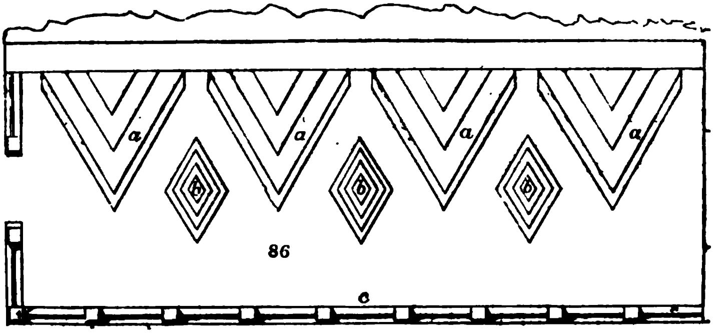
"When a perfect knowledge of all the different sorts of strawberries has been obtained, reduction of the numbers will be the immediate consequence; for when cultivators become acquainted with the characters of the whole, they can make their selection without hesitation or anxiety, because they will be certain that their choice will fall on the sorts possessing the properties most desired; and the consequence will be the rejection, and ultimate annihilation, of those of inferior merit."

It is always desirable to know the origin of such names of fruits or flowers as either indicate, or seem to indicate, something respecting their nature. In looking over Mr. Barnet's list, we find that the scarlets, as may be supposed, are so called from the colour of the fruit; the Roseberry, or rose strawberry, is so named, not from any thing on the flower or fruit, but because the original plant grew under a rose-bush; a most improper circumstance for bestowing a name, because it leads a stranger to this piece of history to suppose that the appellation of rose has reference to some property in the flower or fruit. With due deference, we think the Horticultural Society ought to have designated it Davidson's scarlet, or the Cadenhead scarlet, having been raised by Robert Davidson, Esq. and given to Messrs. Cadenhead, nurserymen, Aberdeen. We do not wish to change the name now, because we consider it better that the nomenclature of the Society, even though it may not be in every instance the best, (and what is perfect?) ought to be followed without deviation, in order to prevent farther confusion. The Bostock strawberry is so called because it was raised at Bostock, in Cheshire: it is often called the Rostock, which has given rise to a supposition that it was a sort received from Rostock, in Pomerania. The word Pine, as applied to strawberries, is supposed to have originated from the French name, Fraisier Ananas, applied by Duhamel to the Surinam strawberry, from its pine-apple flavour. The Hautbois strawberry is diœcious, and it has been usual to introduce male plants as an essential part of the plantation of a bed of this species. Mr. Barnet thinks this may be dispensed with, as "all the varieties of the Hautbois in the garden of the Society are remarkably productive, and even the Globe Hautbois, which usually has been supposed to require proximity of the male plants, bore as well as others, and yet none of these had been introduced when the beds were formed. They were probably fecundated by the pollen of other varieties which produce hermaphrodite flowers with perfect stamens."

It is stated as a fact, that strawberries frequently re-produce themselves, unchanged, from seed. Perhaps the same thing may happen occasionally with the fruits of ligneous plants; and, if so, the golden pippin may be perpetuated from seed, as has been (*Gard. Mag.* 223.) suggested.

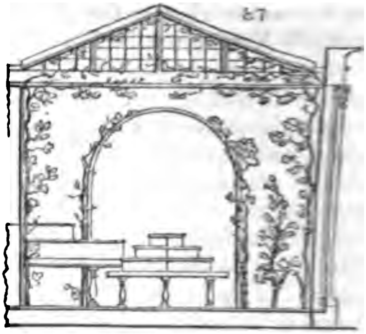
16. *Description of a Green-house in the Garden of Sir Robert Preston, Bart. at Valleyfield, in Perthshire. In a Letter to the Secretary.* By Mr. Alexander Stewart, C.M.H.S. Read December 7. 1824.

The singularity and beauty of this green-house consists in the form of the stages (*fig.* 86. *a, b*), which are calculated to



86

produce more variety than a common sloping series of shelves. This arrangement also displays more surface to the light and air than the common mode. "It is now about ten years since the idea of making these stages struck me, and I am happy to say they have answered my most sanguine expectations, and have met with the approbation, not only of my employer, but of most persons who have seen them."



The back wall is covered with creepers, there is a large niche or alcove at one end, and a narrow border in front; the flues, span-roof, &c. are in the usual way. (*fig.* 87.)

17. *Upon the beneficial Effects of protecting the Stems of Fruit Trees from Frost in early Spring.* By Thomas Andrew Knight, Esq. F.R.S. &c. President. Read February 1. 1825.

Circumstances have led Mr. Knight to believe, that whenever a very large portion of the well-organised blossom of fruit trees falls off abortively in a moderately favourable season, the cause of the failure may generally be traced to some previous check which the motion and operation of the vital fluid of the tree has sustained. A severe frosty night, or very cold winds, during the barking season, is known to give such a check to the flow of sap in the oak tree, as to prevent it from being separated by the peelers till the return of milder weather.

"Neither the health of the tree, nor its foliage, nor its blossoms, appear to sustain any material injury by this sudden suspension of its functions; but the crop of acorns invariably fails. The apple and pear tree appear to be affected to the same extent by similar degrees of cold. Their blossoms, like those of the oak, often unfold perfectly well, and present the most healthy and vigorous character; and their pollen sheds freely. Their fruit also appears to set well; but the whole, or nearly the whole, falls off just at the period when its growth ought to commence. Some varieties of the apple and pear are much more capable of bearing unfavourable weather than others, and even the oak trees present, in this respect, some dissimilarity of constitution.

"It is near the surface of the earth that frost, in the spring, operates more powerfully, and the unfolding buds of oak and ash trees, which are situated near the ground, are not unfrequently destroyed, whilst those of the more elevated branches escape injury; and hence arises, I think, a probability that some advantages may be derived from protecting the stems or larger branches of fruit trees, as far as practicable, from frost in spring."

In support of this conclusion, Mr. Knight refers to an apple tree, which having had its stem and part of its larger branches covered with evergreen trees, had borne a succession of crops of fruit; whilst other trees of the same variety, and growing contiguously in the same soil, but without having had their stems protected, had been wholly unproductive; and to a nectarine tree, which having sprung up from a seed accidentally in a plantation of laurels, had borne, as a standard tree, three successive crops of fruit. The possessor of the nectarine tree, with the intention of promoting its growth and health, cut away the laurel branches which surrounded its stem in the winter of 1823–4, and in the succeeding season not a single fruit was produced.

"Never having known an instance of a standard nectarine tree bearing fruit in a climate so unfavourable, I was led to expect that the variety possessed an extraordinary degree of hardiness: but having inserted some buds of it into bearing branches upon the walls of my garden at Downton, in the autumn of 1822, I have not had any reason to believe that its blossoms are at all more patient of cold than those of other seedling varieties of the nectarine."

A China rose, sheltered by the stem of a plant of Irish ivy, grew and flowered with more than common vigour; and Mr. Knight suggests, that as the ivy, when it has acquired a considerable age, and produced fruit-bearing branches, exhibits an independent form of growth, which these branches retain when detached, if these were intermixed with plants of the more delicate varieties of the Chinese rose, or other low deciduous and somewhat tender flowering shrubs, so that the stems of the latter would be covered in the winter, whilst their foliage would be fully exposed to the light in summer, it is probable that these might be successfully cultivated in situations where they would perish without such protection: and the evergreen foliage of the ivy plants in winter would be generally thought ornamental. Detached fruit-bearing branches of ivy readily emit roots, and the requisite kind of plants would therefore be easily obtained.

As a farther experiment with reference to Mr. Knight's reasoning, we would suggest to such as have lately planted an orchard of standard trees, to clothe the stems and principal branches of half of them, during the months of March, April, and May, with loose bands of straw, and to observe the effects in comparison with the other half.

18. *An Account of a Method of obtaining very early Crops of the Grape and Fig.* By Thomas Andrew Knight, Esq. F.R.S. President. Read March 1. 1825.

Mr. Arkwright has proved that vines, of which the wood and fruit have ripened late in one season, will vegetate late in the following season, under any given degree of temperature; and Mr. Knight has shown the converse of this proposition to be equally true. A Verdelho vine, growing in a pot, was placed in the stove early in the spring of 1823, where its wood became perfectly mature in August. It was then taken from the stove, and placed under a north wall, where it remained till the end of November, when it was replaced in the stove, and it ripened its fruit early in the following spring. In May it was again transferred to a north wall, where it remained in a quiescent state till the end of August. It then vegetated strongly, and showed abundant blossom, which, upon being transferred to the stove, set very freely; and the fruit having been subjected to the influence of a very high temperature, ripened early in February.

The white Marseilles fig, and figue blanche, which very closely resemble each other, succeed most perfectly under similar treatment; and if the trees be taken from the stove in the end of May or beginning of June, and placed under a north wall till September, and be then again transferred to the stove, they will begin to ripen their fruit in January or February, and continue to produce it till the end of May or the beginning of June, when they should be again removed from the stove.

19. *On the Culture of the Pine Apple. In a Letter to the Secretary.* By Mr. William Greenshields, Gardener to Richard Benyon de Beauvoir, Esq. F.H.S., at Englefield House, in Berkshire, Corresponding Member of the Horticultural Society. Read April 19. 1825.

The following directions are for the management of pine plants that are intended to show their fruit eighteen months after removal from the parent plant. In the end of August, or beginning of September, prepare a pit for the stock of crowns and suckers. A bed 24 by 6 feet will hold 400 plants. Stick in the crowns and suckers in rows, as thick as they will stand, and about one inch and a half deep. Keep to 70°, and shade during hot sunshine. Through the winter, apply dung linings, to keep the internal air between 50° and 60°, and protect the glass with mats during the night. If the bed should get very dry, give a gentle watering over the surface. No other care or attention will be necessary till March, the roots will then have run nearly over the surface of the bed, and consequently the plants will require potting. Plant in pots of about six inches in diameter for the largest plants, and for the smaller in proportion. Leave on all the roots, and strip off three or four of the bottom leaves. Use deep potting, which is a great advantage to pine plants in all stages of their growth. When the potting is finished and the plants are set in the pit, shut the lights down close, letting them remain so from four to eight days, shading in hot sunshine.

Keep the air to 70° for the first three weeks; in that time the plants will be well rooted, and will then require free admission of air, and watering about twice a week, as well as frequent sprinklings with the engine in hot dry weather. The top heat must then be maintained, with dung linings, to 65°, and the lights must be covered with mats at night, till the summer heat makes it unnecessary,—this will be in the month of June. At that time the plants will require fresh potting into pots two sizes larger than the last. There will be no fresh tan wanted at this season for the bed; turning it over one fork deep, to level the surface, is all that will be necessary. Pot the plants with balls entire, using the mould at this and every other potting in as rough a state as possible.

About the middle of August or September the plants will require potting in their fruiting pots, from twelve to fourteen inches in diameter. Pot the plants with balls entire, and deep in the pots, stripping off a few of the bottom leaves to let them push out fresh roots. In setting the pots give plenty of room to the plants, for they will make considerable progress after this potting. When the setting is finished give a little water to settle the mould: the plants will not require any more for ten days or a fortnight after. Keep the house rather warm, to make them root freely, and then water whenever they appear dry, which is the best criterion to go by in the autumn and winter months. Give plenty of air whenever the weather permits, and sprinkle with water when the bark bed and house become dry.

Begin fire heat when the internal heat of the house in the morning falls below 60°, keeping between that and 65° to the middle of January, when a rise of 5° will be necessary. In April fork the bed over two forks deep, adding a little fresh tan quite at the bottom of the pit, and then level the surface. Before the plants are replaced, three or four of their bottom leaves should be stripped off, and a little of the old mould taken from the surface of the pots, and replaced with fresh mould, raised quite to the tops of the pots. When the plants are returned into the bed, plunge the pots to half their depth only, (this should be observed at all other settings, as there is nothing so injurious to a pine plant as too much bottom heat,) giving plenty of room, and a gentle watering. Keep the house rather warm for the first week, till the heat of the bed returns. Give air whenever the weather will permit, watering about twice a week in hot dry weather, and sprinkle with the engine frequently when the house is shut up in the evening. There will be no farther attention necessary till the fruit is swelled to its full size, and begins to ripen, then all waterings should be discontinued, and a free circulation of air admitted, to bring the fruit to its full flavour.

The large sorts of pines that do not fruit at so early a period, require to be kept growing through another season. Cultivate the first season as above, but at the last potting in August or September use pots from ten to twelve inches in diameter, and keep the air of the house between 60° or 65° till the end of January or beginning of February; at that time raise the heat 2° or 3°, to encourage the plants to grow.

Early in March shake the balls entirely from the roots, and fresh pot them into pots eight inches in diameter. By the middle or end of May their roots will begin to get matted, consequently they will require to be fresh potted into pots two sizes larger than the last. At the end of August, or beginning of September, they should be put into their fruiting pots. At this shifting they will require pots from fourteen to sixteen inches in diameter. In setting, plunge the pots to half their depth, give them a gentle watering to settle the mould amongst the roots, keeping the air in the house rather warm for ten days after shifting, to encourage their rooting freely, that is 65°; and this is the temperature which should be maintained from the time of first lighting fires in the autumn till the middle of January. The mould in the pots should be kept rather dry till the middle of January, when the top heat should be increased to 70°, and water freely given to induce the plants to fruit. From this time to the maturity of their fruit, the usual management is adopted, excepting keeping the air of the house three or four degrees higher during the spring months.

" The rules that I have laid down in this communication, all apply to the treatment of pine plants that are intended to give a general summer crop. Where ripe fruit is required earlier or later, the different pottings, &c. must be varied accordingly, and be done earlier or later as the fruit may be required to come in for use at an earlier or later season. The compost mould to be used at all the pottings should be strong surface loam, and half-rotten hog dung, of each equal quantities, kept as rough as possible, in which state it should be applied on all occasions. The mixture should never be used when more than twelve months old. It may be here observed, that no pine plant should be checked in its progress; for the consequence of checking is always a premature and weak production of fruit."

This last observation deserves the particular attention of gardeners, as it applies not only to pines, but to the whole class or division of vegetables termed by botanists Monocotyledones, including palms, bulbs, and grasses. It does not apply in any thing like the same degree to Dicotyledones.

20. *An Account of the Calville Rouge de Micoud, a new Variety of Apple.* By M. André Thouin, Foreign Member of the Horticultural Society. (*Gard. Mag.* 226.) Read July 15. 1823.

This apple tree was raised from seed about forty years ago, on the banks of the Loire. Its first season of flowering generally takes place in April, at the same time as the greater part of the other varieties of apples; the second is in June. The tree then ceases for a time to produce flowers; the third and succeeding flowerings take place in August, September, October, and November, when they are stopped by the severity of the frost. It is necessary to remark, that the last flowerings are much less abundant than the two first, and the fruit which they produce is small, and imperfectly ripened.

The fruit of the first crop is in form depressed spherical: near three inches in diameter across the centre of the fruit, but not exceeding two thirds of that measure in its section from the stalk to the eye. Its maturity commences about the middle of July, and continues with little interruption till November. The fruits of the April flowering ripen mostly in August, and are usually eaten during the harvest. Those of the second flowering succeed the first, and may be brought to table till the end of October; these are quite as good as the first, but are not bigger than a hen's egg. The fruit of the later flowerings are not bigger than a small pomme d'api; nevertheless, when they are stopped in their growth by the frost, they may be placed in the fruit-room, where they ripen very well, and keep till November.

It has been called the Calville Rouge de Micoud, in honour of the Baroness de Micoud, on whose estate it was raised.

21. *On the Management of Hot-house Flues, so as to keep up a nearly equal Temperature during the Night. In a Letter to the Secretary.* By the Reverend George Swayne, Corresponding Member of the Horticultural Society. Read February 1. 1825.

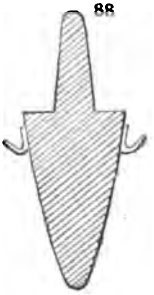
Mr. Swayne "feels pity for those among the successors to the primitive employment of our first parents, who have to attend to the modern refinement now very generally attached to that employ, namely, the forcing department and the culture of exotics. Whilst the rest of the servants of an establishment are usually enjoying themselves before a comfortable fire, or in their warm beds, the poor gardener is obliged to encounter the pitiless pelting of rain, snow, or hail, the cold pulses of the frosty air, or the piercing shafts of the northerly blasts, in regularly pacing to and from his furnace (in many cases, no doubt, at a considerable distance from his lodgings,) without the allowance of a single intermission during the tedious winter. But surely these matters may be managed otherwise."

Finding that a common baking oven, after being heated, retains a high degree of heat for twenty or thirty hours, Mr. S. proposes to apply the principle to the heating of hot-houses, by closing up the furnaces and flues, after they have been properly heated at an early hour in the evening, and reopening them, and rekindling the fires, at an hour not inconvenient in the morning, at once sparing the gardener's nightly rest, and the the master's coal-heap.

The remainder of the paper is occupied chiefly in describing a moveable iron cap to close the chimney pot, and a Welsh slate to set against the furnace and ash-hole, so as effectually to exclude air at both places. Mr. S. refers to Mr. Atkinson's excellent paper on the management of furnaces (*Gard. Mag.* p. 167.), and probably if the double doors and ash-pit registers recommended in that paper were employed, the large slate recommended by Mr. Swayne might be dispensed with. As to the cap to fit the chimney top, it is so unsightly an object, that we greatly prefer the usual description of damper. Indeed, as flues are generally built, we are not sure that it is desirable to have the smoke and heated air confined by air-tight coverings at their orifices. Between Mr. Atkinson's directions, and Mr. Swayne's suggestions, the judicious gardener will be enabled to improve upon common practices, and by aiming at the retention of heat in the flues, save both labour and fuel.

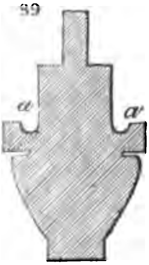
A notice which belongs to Art. 8. of the preceding Part, (*Gard. Mag.* 306.), indicates a plan, by J. R. Neame, Esq. F.H.S. for preventing the drip in glass-houses. Mr. Neame attaches small thin copper gutters to the bars of his lights in the manner represented in the annexed sketch, (*fig.* 88.) They are fastened on with pins the whole length of the bar, and conduct the water which they receive to the top of the plate which supports the bottom of the rafters, from which it falls into a gutter, which runs along the front of the house on the outside.

88

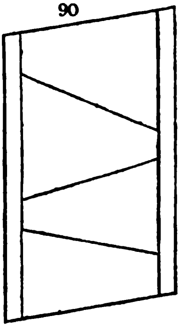


Our correspondent, Mr. Saul of Lancaster, has sent us some observations on Mr. Neame's plan, for which he proposes to substitute gutters formed in the rafter (*fig.* 89. *a*, *a*.); and in order to co-operate with it in preventing the condensed water from dropping from the glass on the plants, he proposes to adopt diagonal glazing (*fig.* 90.): he adds, "when glazing, a little putty may be drawn out of the inside, as it will form a gutter in the glass." In houses properly constructed and managed, contrivances of this kind can very seldom be wanted. The fewer mouldings and grooves in garden sashes of every kind, the less will they harbour water, dirt, and vermin, the smaller the surface to paint, and the greater the strength in proportion to the thickness.

89



90



Art. II. *Catalogue of Works on Gardening, Agriculture, Botany, &c. published since June last, with some Account of those considered the most interesting.*

British.

Lloyd, G. N. Esq., Member of the Plinian Society: Botanical Terminology; or, Dictionary explaining the Terms most generally employed in systematic Botany. London, 12mo. 7*s*.

Stewart, Alexander: The Farmer, Grazier, and Corn Merchant's Pocket Companion, containing Tables for ascertaining the Weight of Cattle by Measurement, upon a new System; with other Tables, useful to Gentlemen, Farmers, and Dealers in Corn. Edinburgh, 12mo. *2s.* sewed.

Hiort, J. W. Architect, Chief Examiner in His Majesty's Office of Works and Public Buildings, Whitehall: A practical Treatise on the Construction of Chimneys, containing an Examination of the common Mode in which they are built; with an accurate Description of the newly invented Tunnel, demonstrating its Utility and Safety, its Importance in superseding the painful Practice of employing climbing Boys, the Remedy which it affords for the Nuisance of Smoky Flues, and the Advantages to be derived from its rendering those lofty Shafts, with their numerous unsightly Contrivances at present in use, entirely unnecessary. Together with complete Instructions for its Adoption, whereby a competent Judgment may be formed of the Causes which prevent the free Ascent of Smoke in Chimneys, and Workmen may be enabled to apply a Cure for so serious an Evil. Also Tables and Calculations, by which Estimates of the Expense can be framed. London, royal 8vo.

The tunnels or flues alluded to, are composed of bricks or tiles so moulded as to admit of building the flue of a circular or cylindrical section, whatever may be its direction. As a proof that the plan is approved of by those who ought to be competent judges, the chimneys in the new royal palace in St. James's Park are said to be building on Mr. Hiort's plan. The proper materials for the construction of these chimneys are sold at certain wharfs mentioned in the publication.

Atkinson, James, Esq., of Oldbury, Argyle County, New South Wales, and formerly Principal Clerk in the Office of the Colonial Secretary at Sydney: An Account of the State of Agriculture in New South Wales; including Observations on the Soils and general Appearance of the Country, and some of its most useful natural Productions; with an Account of the various Methods of clearing and improving Lands, breeding and grazing Live Stock, erecting Buildings, the System of employing Convicts, and the Expense of Labour generally; the Mode of applying for Grants of Land, with other Information, important to those who are about to emigrate to that Country: the Result of several Years' Residence and practical Experience in those Matters in the Colony. London, 8vo. *7s.*; or including a large Map and View of Sydney, *14s.*

To persons who contemplate emigration to Australasia, this work will be very acceptable. It seems judiciously composed, and very impartial. "Many large tracts are now open to emigrants in the various new settlements, but I must decline giving any opinion as to which should have the preference. The new settler should make his choice from personal inspection, and a due consideration of the extent of his capital, and the objects he has in view."

There are two publications similar to Mr. Atkinson's on Van Diemen's Island, which ought to be consulted in connection with that now before us.

Morris, Richard, F.L.S., &c. Author of "Essays on Landscape Gardening," &c., of the Firm of Messrs. Parnell and Morris, Surveyors, Estate Agents, and Landscape Gardeners: Flora Conspicua; a selection of the most ornamental flowering, hardy, exotic, and indigenous Trees, Shrubs, and herbaceous Plants, for embellishing Flower Gardens and Pleasure Grounds. Drawn and engraved from living Specimens by W. Clark. No. XV. *3s. 6d.*

The publication of this work was concluded on the 1st of September, with the fifteenth Number. It forms a volume of sixty coloured engravings of ornamental hardy plants, so remarkably well executed that it may be safely recommended as a copy-book for young people learning to draw flowers. To botanical amateurs it possesses also considerable interest, the plants figured being some of the most ornamental in cultivation.

Sweet, Robert, F.L.S. Author of Hortus Suburbanus Londinensis, Botanical Cultivator, Geraniaceæ, Cistineæ, The British Flower Garden, British Warblers, &c. Sweet's Hortus Britannicus: or, a Catalogue of Plants cultivated in the Gardens of Great Britain, arranged in natural Orders: with the Addition of the Linnean Classes and Orders to which they belong, References to the Books where they are described, their native Places of Growth, when introduced, Time of Flowering, Duration, and Reference to Figures; with numerous Synonyms. Part I. London, royal 8vo. 10*s.* 6*d.*

This catalogue of our friend Mr. Sweet having the same title as our own, the reader may very naturally doubt our impartiality in speaking of it. But though the titles of the two works are nearly the same, the books differ so materially in plan, that the one is quite a different sort of thing from the other. We can, therefore, afford to render due praise to Mr. Sweet for having been the first to produce a British catalogue arranged in natural orders. We only regret that he has adopted a title to which we claim a prior right, having announced our Hortus Britannicus in the Encyclopædia of Gardening (§ 7506. *and other places,*) in April 1824, and in various subsequent advertisements, long before Mr. Sweet announced any such work. This statement is due both to ourselves and the proprietors of our production.

Mr. Sweet's catalogue differs from ours in having the species arranged in natural orders; we have arranged the species according to the Linnean system, as in our opinion that system is better adapted for a beginner, and for the present state of botany in this country; but to provide for the more mature botanist, for those who differ from us in opinion, and for what may ultimately become the general classification in our gardens, we have given a natural arrangement of all the genera without repeating the species; and as the genera are numbered in both classifications, a reference from the one to the other is easily made. Our work, therefore, contains two distinct classifications, and therefore possesses all the advantages which belong to each. The number of what are called perfect plants in our catalogue and in that of Mr. Sweet will probably be nearly the same, though on this subject we shall be more able to speak when Part II. of Mr. Sweet's work appears. But in order that Mr. Sweet may speak for himself, we quote the whole of his preface.

"The adoption of the arrangement of plants, according to the natural method, is continually increasing; and under the very prevalent impression that it will, ere long, be brought into general use, the author has been induced to compile the present work according to the natural system; at the same time, there is prefixed, to each genus, the Linnean class and order to which it belongs; and it will be seen that, not unfrequently, plants of one genus will belong to several of the Linnean classes and orders. Natural orders are also of more real use to the cultivator, as it brings together the groups of plants that are nearest related, and which very generally require nearly the same sort of management; and plants that are difficult to propagate may very frequently be readily increased, by grafting or inarching on some other belonging to the same natural order, but will seldom or ever do any good on plants that are not so related.

"Besides the adopted names of the plants, and references to the books where they are figured or described, numerous of the most essential synonyms are given, so that any plant is known as well by its different names as by the adopted one; the want of this has been of late much complained of by cultivators."

Loudon, J. C. F.L.S. H.S. &c. Author of the Encyclopædias of Gardening and Agriculture, &c.: Hortus Britannicus; a Catalogue of all the Plants indigenous, cultivated in, or introduced into Britain, with the Scientific Name, original Authority, Accentuation, English Name, two distinct Classifications, Linnean and Jussieuean, the popular Character, Height, Time of Flowering, Colour of the Flower, Native Country, Habit of British Species, Year of Introduction, Soil, Propagation, and Reference to Figures. With a Kalendarial Arrangement of hardy ornamental Plants; the popular Plants, and terms of Gardening and Agriculture, in Four Languages; and a Blank Appendix for additional Species. London. 8vo. 10*s*.

The following are extracts from the preface: —

"The advances made in botanical science, and the extraordinary accessions to our garden collections within the last ten years, demand corresponding improvement in botanical catalogues; and the Hortus Britannicus now submitted to the public, contains the following additions, in form, materials, and details, not in any preceding work of the kind.

I. In form.

1. Two distinct classifications; the artificial, or Linnean, in which the genera and species are given; and the natural, or Jussieuean, in which the genera are given, but not the species.

2. A classification of the ornamental hardy herbaceous plants, trees, and shrubs, according to their time of flowering, the height they grow to, and the colour of the flower.

3. A classification of the ordinary plants, and seeds of commerce, in four different languages.

4. A classification of the names of implements, operations, and more important technical terms of gardening and agriculture, in four different languages.

II. In matter.

1. All the native British plants, including the whole of Cryptogamia, Mosses, Lichens, Fungi, Algæ, &c.

2. Above 3000 species in cultivation in British gardens, not before in any British catalogue.

3. An Appendix of blank numbers, by which 500 additional species or varieties, or synonymous names, may be added in manuscript, as occasion may require.

III. In details.

1. Instead of the *four* signs ♄, ♃, ♂, ⊙, for trees, perennials, biennials, and annuals, *twenty* different signs are used, distinguishing trees, shrubs, undershrubs, climbers, twiners, trailers, creepers, evergreens, bulbs, aquatics, &c.

2. The popular character of each species is indicated; *i. e.* whether a fruit tree, timber tree, culinary plant, agricultural plant, weed, &c.

3. The height to which every species grows, under ordinary circumstances, in its native climate.

4. The colour of the flower.

5. The natural habitations of native plants.

6. The mode of propagation in gardens.

7. The most congenial soil for each species.

8. An enumeration of all the species, in regular series, from the beginning of the catalogue to the end, for the purpose of registering plants in gardens, herbariums, &c.

9. After each genus is given, the total number of species which have been described or are known to exist, by comparing which with the number described in the catalogue, the number not yet introduced to Britain is at once ascertained.

All the details of preceding catalogues which seem worthy of adoption are combined with the above improvements; such as the original authority for each name, the duration, time of flowering, year of introduction, habitation in the garden, reference to figures, accentuation both of generic and specific names, &c. &c.

The following *observations on the above improvements*, and other matters connected with this catalogue, are intended to assist the young gardener in generalizing on its details.

Classification. Having determined in the spirit of the present state of botanical science, to give both Linnean and Jussieuean classifications, it may be advisable to state the reasons which have led to the adoption of the former as the principal arrangement, or that under which the species are given in detail.

Though classification is less essential in a catalogue than in a Species plantarum, such as the Encyclopædia of Plants; yet in a catalogue like ours, so rich in descriptive particulars, that it is calculated to a certain extent to serve the purpose of a Species plantarum, it is of great value. The classification which we have adopted, both in the Encyclopædia and here, as the principal one, is the Linnean, not only as of itself, as we think, best calculated for a beginner, and especially a beginner under ordinary circumstances, but as that which will be most generally useful in the present state of systematic knowledge among practical men in this country. The natural system of Jussieu is in itself more perfect than any other, and very probably in time will supersede every other; but that time is not yet arrived, at least in this country. If a beginner could begin among an extensive collection of plants, we should in that case recommend the natural system as the best; because by it he would sooner acquire not only the names of plants, but a knowledge of their characters and properties; but when, as is generally the case, he commences with only the ordinary garden plants, and the indigenous plants in his neighbourhood, then the artificial system is preferable, because more simple and absolute in its views and details. After acquiring the mode of discovering the names of plants by this system, and knowing the names of 1,000 or 2,000 species of half as many genera at sight, the learner may have recourse to the natural system. Its advantages to a student so far advanced, or commencing in a rich botanic garden, are great over the Linnean classification: one of the principal is, that when a plant is once mentioned to him as belonging to any particular natural order, an idea is immediately formed of its general appearance, mode of culture, properties, and uses. Nothing of this sort can be said of any of the Linnean classes or orders, with one or two partial exceptions; but, on the other hand, any person who can count the stamens and pistils of a flower, can refer nearly one half of the plants known to their place in the Linnean system, so as to be able with ease to discover their names. This is certainly a great thing for a beginner. The Linnean system has been very fitly compared to the arrangement of words in alphabetical order, as in a dictionary, and the Jussieuean to the arrangement of words according to their roots and affinities. The one, as M. Bicheno has ably shown, teaches to know plants individually, — the other to know them in masses. Still both in the dictionary and affinity system, when the name of an unknown plant is sought for, much depends on the enquirer's already knowing a number of other plants.

Such is our opinion of the two systems, offered for the purpose of assisting young gardeners in forming theirs. We shall only farther suggest to the beginner, that whichever system he begins with, he will find great advantage in paying particular attention to the place of every plant in the natural system. Even when he is told the name of a plant, if he can learn from his informer to what natural order it belongs, and the genus that comes nearest to it in that order, the information will greatly assist the memory. To read or hear of a plant called Dulgodia, leaves no impression on the mind from which to imagine an idea of its appearance, or fix either the name or the thing on the memory; but if it is added, that it belongs to Irideæ, and is nearly related to Ixia, then the bulbous root, ensiform leaves, and brilliant flowers, which it must necessarily have, are immediately called into the mind's eye; and Dulgodia, both as a word and thing, is associated with Ixia, and fixed in the memory.

The Jussieuean classification is recommended for the arrangement of botanical or scientific flower-gardens.

"To facilitate arrangements of this kind, we have, in the disposition of the genera, under the natural orders, added the number of hardy herbaceous and ligneous plants to each genus. This will enable gardeners to proportion the size of beds, groups, or other spaces to the number and size of the hardy plants in each order. No mode hitherto devised, is so well calculated for communicating a taste and knowledge for plants as such an epitome of vegetable nature. A taste for plants as parts of a grand whole or system is of a much higher and more intellectual character, than a taste for plants as showy or fragrant flowers, or as ornaments to gardens. No plan is so well calculated to originate this taste, and promote its progress, as a display of plants according to their natural affinities. So great will be the additional interest and enjoyment afforded by the vegetable kingdom so displayed and studied, that we have little doubt the time will very soon arrive, when every gentleman's seat will have its Systema naturæ of plants in the pleasure-ground, as it now has its library in the house.

The *kalendarial arrangement* is given for the purpose of facilitating the selection of ornamental plants for borders and shrubberies; and partly also to show the botanical riches of each month. From this division of the work, the herbaceous plants, which in the column of popular character are entitled weeds, culinary, agricultural, grasses, &c. are excluded.

The *plants of commerce* and the *implements, technical terms, &c.* are given for the purpose of facilitating the intercourse between British and Foreign cultivators. By means of these terms, the scientific names of plants which are familiar to the principal gardeners of all countries, and a few verbs, and other parts of speech, which may be acquired in a day or two, gardeners may hold with gardeners a sort of verbal intercourse, sufficient for the ordinary purposes of professional communication and commerce.

The *blank appendix* is given for the purpose of enabling such cultivators, or collectors of specimens, as adopt our enumeration, to add in manuscript such additional species or varieties as are new or not found under the same names in the foregoing parts of the catalogue.

The *enumeration of the species in one series to the end*, is made with a reference to two objects of considerable importance: 1st, to correspond with a similar enumeration given in the Encyclopædia of Plants; and, 2dly, for the purpose of registering plants in gardens.

For effecting the latter purpose in the simplest and cheapest manner, the improved mode of cutting numbers on sticks, invented by Mr. Seton, (*Enc. of Gard.* § 1783.) is deserving the particular attention of the gardener." (The mode is then described and illustrated by two engravings, after which are given the following observations:—)

"One of the most judicious methods of registering the plants of a botanical flower garden, in which there is a separate group or bed for each natural order, is, to have the name of the order or tribe painted on a label which may be formed of cast iron, or of strong wire with a plate of lead soldered to the top, and to number each particular plant by Seton's mode. By numbering according to a printed catalogue, no written catalogue is required, very little time occupied, and the correct eye is not offended by misspelt words, or illegible writing. Even the accentuation of both genera and specific names is ascertained every time the catalogue, if accented like ours, is referred to, by which means gardeners will acquire a habit of pronouncing botanical names correctly."

After a variety of remarks on other improvements peculiar to this catalogue, which it is hoped will be of value to the beginner, both in culture and in botanical study, the preface of eight closely printed pages thus concludes: —

"The immense value of such a work as this, to all who take any interest in botany or vegetable culture, must be obvious. Whoever possesses the Hortus Britannicus, the Encyclopædia of Plants, and the short introduction to botany, now compiling *expressly* for the use of cultivators, to be entitled *Loudon's Introduction to Botany, for the use of Gardeners and Farmers*, containing an explanation of the classes and orders both Linnean and Jussieuean, will have as complete a botanical library as any gardener or agriculturist, or even botanist not intending to become an author, can have occasion for."

"It remains only to state, that all the merit of the execution of the catalogue belongs to two botanists, the one in the first rank in point of science, and the other equally eminent in point of practical skill as a botanical cultivator, and as possessing a knowledge of the plants actually existing in British gardens."

"The Editor claims for himself very little more than a share of the merit that belongs to the plan, &c."

FRANCE.

Bulos, M., Translator of Sir H. Davy's Agricultural Chemistry, and other Works: Traité d'Agriculture et d'Horticulture, traduit de l'Anglois, sur la 10^e Edit. de Smith. Paris, small 8vo.

The work of Smith, of which this treatise is said to be a translation, we never heard of, and suspect it to be a fictitious production.

Chabouillé Dupetitmont, M., Cultivator: Manuel Pratique du Laboureur. Paris, 2 vols. 12mo.

This is considered by the French agriculturists a useful practical work. The author professes to join to the practices of the ancients the modern improvements which have been confirmed by experience. Calculations are given of the expenses and profits of different rotations, and of the comparative advantages of using horses and oxen as beasts of labour. One argument in favour of the latter is, that they are subject to only forty-seven sorts of diseases, while horses are liable to two hundred and sixty-one diseases, besides accidents, some of which, such as the breaking of a leg, render a horse of no farther use, while an ox may be sold to the butcher.

Soulange-Bodin, M. le Chevalier, President of the Linnean Society of Paris, Member of the Royal and Central Society of Agriculture, &c.

1. Instruction addressée aux Naturalistes Voyageurs. Paris, 12mo.
2. Notice sur une Nouvelle Espèce de Magnolia. Paris, 8vo.

The Chevalier Soulange-Bodin, as we have before observed, is a proprietor who cultivates a handsome collection of plants, as well to gratify a taste for botany, as to sell and exchange. The first of the above pamphlets is to inform the public, that since 1823 he has devoted his fortune and his leisure to the formation of a grand horticultural establishment at Fromont, near Paris. This establishment he describes as a Central Depôt and Methodical Collection of choice plants, having at once the character of a nursery and a museum, where the amateur, the horticulturist, and the botanist will find every thing that may gratify their tastes, their speculations, and their researches. In order to promote his views, he invites all the botanists and horticulturists of Europe to inform him of the most remarkable plants in their respective countries; and the inhabitants of other regions of the globe, captains of vessels, and travellers, he requests to send him seeds and plants of every thing interesting. He gives directions for packing seeds, which are not materially different from those of Mr. Lindley (*Gard. Mag*. 335). Small seeds he directs to be put in paper, others between layers of fine dry sand, and both placed in vessels hermetically closed. Oily seeds should be deposited separately in sand very fine and very dry. All the expense of carriage will be paid, and *les diverses propositions qui lui seront faites* taken into consideration. Communications, seeds, or plants, may be addressed, *Jardin de Fromont, M. le Chevalier Soulange-Bodin, à Paris, rue Sainte Anne, No.* 44. To so spirited an individual we wish every success.

The Magnolia described in the second tract is a hybrid between M. conspicua and purpurea, the former being the female parent. Mr. Mackay of the Clapton nursery, who has seen it in flower, thinks it will be a very valuable addition to the Magnolias. It has the leaves of M. couspicua, but a little stronger, the same form of flower, but the petals tinged with purple and rose colour, and nearly the same odour.

Tesson-Maisonneuve, M. Manuel du Pêcheur Français; a General Treatise on Fishes and Fishing. Paris, 18mo. Many Plates. 3 fr.

Sea fish are not included in this treatise; but a number of fresh-water fishes are described, and the art of fishing for them treated of. Part IV. treats of ponds, stews, and reservoirs.

Payen et Chevalier, MM. Traité de la Pomme de Terre. Paris, 8vo.

This is one of the most complete treatises which has appeared on the potato. What is related respecting its culture affords little worth repeating to our readers. The varieties known in France which are the most productive in nutritive matter are, 1. the New York; 2. the Turlusine; 3. the Bread Fruit; and, 4. the Bloc. The variety preferred in Paris is called la Hollande jaune. The different uses to which the potato may be applied are the thirty-one following: —

1, 2, 3. Its haulm, in a green state, is good food both for cattle and sheep; dried and burned the ashes afford potash, or will form artificial nitre beds.

4. The tubers, in a frozen state, afford starch, and, by distillation, spirit.

5. Potatoes, young or old, may be eaten roasted, steamed, or boiled.

6. They may be made into bread with one third part of flour.

7. Soups of every kind may be made of them; they may be roasted, fried, or eaten in salads.

8. With the flour of potatoes every description of pastry may be formed.

9. Converted into fecula, or starch, or cut into slices and dried by steam, they may be preserved for any length of time.

10. Vermicelli, rice, and tapioca, articles which may be made of the flour or starch of any plant, may of course be formed from them.

11, 12, 13. They are mixed with gravy; they are made into paste and starch.

14. Mixed with stucco they form an improved plaster.

15. They nourish every description of domestic animal, and during winter are eaten by hares and rabbits.

16. Cut into slices, and thrown in a certain proportion into caldrons of boiling water, they prevent the sediment of water from adhering to the sides and bottoms of such vessels.

17. They form a wash or thin plaster for buildings, which may be coloured by soot, ochre, or other colours, as washes of lime are coloured in this country.

18. Roasted to a brown state, and ground to powder, they make a very good coffee.

19. Crushed, they are employed for whitening linen and other cloths.

20. The water expressed from bruised potatoes is a rapid promoter of the germination of seeds.

21, 22. The fecula, or starch, with sulphuric acid, is converted into syrup, from which a species of sugar may be obtained, analogous to cassonade (moist sugar).

23. With soot and other mixtures this syrup makes an admirable blacking.

24. Crushed potatoes, or their fecula, will afford spirit by distillation.

25. The potato may be cultivated in caves and cellars, which resource might have saved Missolonghi. We were rather surprised at this remark of Messrs. Payen and Chevalier, as every gardener knows that the young potatoes formed in cellars are merely a remodification or transfer of the nutriment contained in the old potato, and as this transfer is always made at a great loss of nutriment, if the besieged at Missolonghi had enough of potatoes to plant their cellars, it would have been more profitable for them to have eaten them as they were, than to have encouraged them to form new tubers.

26, 27. The water contained in the tubers of young potatoes may be employed for dyeing grey, and the blossom furnishes a beautiful yellow.

28, 29. The water of potato blossoms cleans cloth of cotton, wool, and silk, and assists in the manufacture of artificial soda.

30. A potato diet cures the scurvy.

31. The sediment of the fecula, mixed with the powder of charcoal, may be made into little billets, or bricks, either for building or burning.

All these uses are independent of the application of the apples or fruit of the potato, the water of which, when immature, might probably be used as in 27, 28, and 29.; and when ripe, like the tomata. The tender tops may be used as spinage. (*G. Mag.* 353.)

Pinteux, senior Butcher and Syndic of the Shambles of Paris: Réflections sur la Production et la Population des Bestiaux en France. Paris, 8vo.

Bonafous, M. *Mathieu*, of Turin, a Botanist and Cultivator, Author of several Works on the Mulberry and Silk Worms: Recherches sur les Moyens de remplacer la Feuille de Mûrier par une autre Substance propre au Ver à Soie, et sur l'Emploi du résidu des Cocons comme Engrais. Paris, 8vo.

The leaves of lettuce, of the rose, bramble, dandelion, pellitory, hemp, the hop, and fig, will keep the silk-worm alive, but not enable it to produce silk. M. Bonafous has found that the only plant worth notice as a substitute for mulberry leaves is the Myagrum sativum, L., an annual plant of the family of cruciferæ, indigenous in most parts of the Continent. M. B. fed worms with the leaves of this plant alone for sixteen days; at the end of that time a number were found dead, but those which remained alive being supplied with mulberry leaves, acquired strength and made very good cocons. Thus it is of some value to know that in a case of necessity the silk-worm may be kept alive for ten or twelve days on other leaves than those of the mulberry. According to Dandolo, it is the resinous matter contained in the leaves of this tree which, elaborated in the stomach of the worm, enables it to produce silk. By analysing the leaves of a great number of plants, perhaps some might be found possessing a resin similar to that of the mulberry; or perhaps some compôt of resin and the leaves of some plant might be prepared or cooked, and the worms fed with it as sheep are with oil-cake.

Leuchs, T. C.: Translated from the German of A. Bulos; L'Art de conserver les Substances alimentaires, &c. Paris, 12mo.

This work is divided into four books: 1. Operations for preserving substances, and prolonging their duration; 2. Application of those operations to alimentary substances of the first necessity; 3. Places and utensils; 4. The theory of the art.

Aubergier, M. Nouvelle Méthode de Vinification, &c. Paris, 12mo.

Sageret, M. Member of the Central Agricultural Society of Paris: Mémoire sur les Cucurbitacées, principalement sur le Melon, avec des Considerations sur la Production des Hybrides, des Variétés, &c. Paris, 8vo.

The Author, elsewhere honourably mentioned (*Gard.Mag.* 65.), proposes, 1. To determine and describe the different species and varieties; 2. To ascertain to what extent these species and varieties intermingle by fecundation, either spontaneously or artificially; and, 3. To study their culture. He gives a project of nomenclature, by which the cucumber, melon, water-melon, and pumpkin are made distinct genera; but as this tract is announced as only the forerunner of a more extensive treatise on the same subject, we shall defer for the present any further examination of M. Sageret's arrangement.

GERMANY.

Schwerz, N., Director of the Experimental Agricultural Institution of the King of Wurtemberg, Author of some excellent Works on the Agriculture of the Netherlands and Alsatia: Anleitung zum praktischen Ackerbau, &c. Instructions on Practical Agriculture. Stuttgard, 8vo. 15 Plates. 5 flor.

Braun, Gustave: Bericht über meinen zweiten Versuch müt dem Anbau des Astragalus Bœticus, &c. Notice of my Second Essay on the Cultivation of Astragalus Bœticus as a substitute for Coffee. Nuremberg, 8vo.

Vander-Plaat, D. M., of Leuwarden: Ueber den Anbau des Astragalus, &c. On the Culture and Use of Astragalus Bœticus as a substitute for Coffee.

The plant alluded to in these two memoirs is already cultivated to such an extent in some parts of Germany, that the seeds have become an article of commerce, like the roots of chiccory, and the carrot, for the same purpose. The culture is the same as that of the common pea, with this difference, that the pods of the Astragalus are gathered as they ripen. Two thirds of the seeds are mixed with one third of coffee-beans, roasted together, put in bottles or vases well corked or closed, and taken out as wanted to be ground. It is sold at the same price as *café à chicorée*, which is generally about one third part cheaper than the true coffee. Coffee from burnt carrots is not much in use at present, but was common in the north of Germany and Poland in 1813.

It might be worth while for some of our readers to try these seeds, and also those of several others of our indigenous Leguminosæ, such as Lathyrus, Vicia Cracca, Lathyroides, and other species.

Graffen, F. G. Auf Erfahrung gegründeter Unterricht, &c. Directions for the Management of Sheep, founded on Experience. Leipsic, 8vo. 9 gr.

Scholser: Fasslicher Unterricht ueber die Bienen. Instructions for the Management of Bees. Brunn, 8vo. 12 gr.

Andre, C. Abhandlungen aus dem Forstund Jagdwesen. Dissertations on Forest Management and the Chase. Prague, 4to. 2 r. thlr. 16 gr. (2 rix-dollars, 16 groschen.)

Behlen: Clima, Lage, und Boden in ihrer Wechselwirkung, &c. Climate, Position, and Soil, considered with respect to their reciprocal action and their influence on the Vegetation of Forests. Bamberg, 8vo.

Reider, T. Das ganze des Kardendistelbaues. The whole Culture of the Fullers' Thistle. Nuremberg, 12mo. 8 gr.

Voght, Baron von, a Proprietor and Cultivator at Flotbec on the Elbe, near Hamburg. Meine Ansicht der Statik des Landbaues. My view of the Statistics of Agriculture. Hamburg, 8vo.

Baron Voght has conceived the idea of expressing the capacities of soils for cultivation, by figures, in a very ingenious manner, but we fear rather of too intricate and fanciful a nature to be of much use. He expresses the fertility of a soil by the produce of two numbers or factors, representing riches and power, which are multiplied into each other; for example, if the power of a soil be 8°, and the riches 45°, the fertility will be 360°. By power he understands the inherent properties of the earths which compose a soil, exclusive of organic matter; by riches he understands the organic matter contained among the earths; and by fertility, the power of the earths and the organic matter combined, or the power of what is called soil in the proper sense of that term. Having determined the degree of fertility necessary to raise different crops, in preparing a field for any of them, the square root of the fertility of the crop is to be compared with the power and riches of the soil, and the number or factor of the former, if deficient, is to be raised by mechanical operations, or the mixture of other earths; while that of the latter is to be raised by manures. Provided the $\sqrt{}^{2}$ of the requisite degree of fertility be produced, the Baron is indifferent whether it arise from power and riches, or power only. This key to the Baron's system will enable any reader of a mathematical turn to apply it to almost every part of agriculture. As an ingenious fancy, we have thought it worth noticing, with a view to the mental exercise of young cultivators.

Huber, M. Ueber die Urbarmachung des Flugsandes. On rendering drift sands culturable. Berlin, 8vo.

A variety of plants are recommended to be planted with a view of fixing light inland sands, and the common pine as the best.

Angyalfy, M. A. Œconomie der Landwirthschaft. Rural Economy. Pest. 2 vols. 8vo. 5 pl. 2 r. thlr.

Wurtembergisher Correspondenz des Landwirthschaft Vereins, Correspondence of the Wurtemburg Agricultural Society. Vol. 8.

This agricultural newspaper appears weekly in Stuttgard, and sometimes contains ingenious papers on rural subjects. M. Jaeger (p. 159.) has long experienced the good effects of watering frozen vines in the spring, rather than leaving them to be thawed by the sun. He proposes to extend the practice to vineyards, making use of fire-engines for distributing the water. Professor Schoen (p. 190.) states that every description of bread corn when intended for seed, should attain complete maturity before it is reaped; but, on the contrary, when corn is intended to be converted into flour, it should be cut eight or nine days before it be fully ripe. Experience, he says, has fully proved, that such grains as from their maturity detach themselves from the ears, always produce the finest plants, from being larger and more perfect in their conformation. The proper period for reaping corn destined for the mill, is when the grains being pressed between the fingers yield to it, and become a viscous mass. It requires a longer time to dry before it can be carried to the rick-yard, but the flour produced from it is much more white, and more abundant, than from matured grain. In some parts of Hungary, Bohemia, and Germany, this practice has been known from time immemorial; it was kept a long time a secret, because the flour so obtained was very much sought after, and always brought a much higher price than the best flour from ripe corn.

Dr. Mawz, who has cultivated the tobacco for many years, sows it in small pots in the autumn, preserves it through the winter in a frame, or otherwise protected from the frost, and transplants in the fields in March. By this practice he finds the plants attain to a much greater size than when sown on heat in the spring, and afterwards transplanted. On this we may observe, that most, if not all annual plants will attain to a much greater size than we usually see them, when so treated. The common purple candytuft, (Mr. Charles Rauch informs us,) under similar management, grows from three to four feet high in the gardens about Vienna. Every one must have observed how much stronger garden annuals self-sown in autumn are, than those which are sown in the spring; the same of winter and spring weeds, and of winter and spring wheat.

Franque, Dr. Die Lehre von dem Körperbau, &c. Theory of the Structure of the Body, of the Diseases, and of the General Treatment of Domestic Animals. Wiesbaden, 8vo. 1 thlr.

Schuster, J. & M. Haberle, Professors in the University of Hungary: De Stipæ Noxa. On the Accidents to which Sheep are liable from the Seeds of Stipa or Feather-grass. Pesth, 12mo.

This is a very curious pamphlet. It appears that Stipa pennata and capitata are very common in certain pastures in Hungary, near the village of Berczel; that the seeds which are furnished with a pappus, are carried about with the wind, and falling upon different objects, stick there, as seeds similarly furnished do, by means of the sharp point of the seed; that they fall upon the backs of the sheep, and by the hygrometrical action of the pappus, and the motion of the sheep, are impelled mechanically (*Enc. of Gard.* § 831.) through the wool, penetrate the skin, pass through the flesh to the intestines, and they have even been found in the liver. The morbid effects of this process is the disease called by these professors stipæ noxa. It commences with an inflammation of the skin, then follow want of appetite, fever, want of sleep, great restlessness, and finally death, at least where the seeds of the stipa have penetrated any of the vital organs.

HOLLAND AND THE NETHERLANDS.

Schuurman Stekhoven, H., Curator of the Botanic Garden, Leyden: Kruidkundig Kunstwoordenbock. Dictionary of Botanical Terms. Leyden, 8vo.

Michel, P. Agrostologie Belgique, ou Herbier des Graminées, des Cyperacées, et des Joncées, qui croissent en Belgique. Brussels, 1st and 2d centuries. 2 vol. fo.

Dried Specimens of grasses not arranged in any order whatever.

RUSSIA AND POLAND.

Parlof, M. Zemliédeltcheskaïa Chimia. Agricultural Chemistry, including a general Treatise on Agriculture and Rural Economy. Moscow, 8vo.

Tsorne, M., Lieutenant-General of Infantry: Tégénédelnik dlia okhotnikof do Lochadeï. Weekly Magazine for the Use of Amateurs of Horses. Moscow, 12 vol. 8vo. 93 pl. 90 roubles.

This work may be described as a complete body of information on the subject of horses, partly original, but principally translated from the German of Tenneker of Dresden.

Apraxin, M., a Nobleman possessing one of the largest houses in Moscow: Zemliédièltchesky Journal, &c. General Report made to the Society of Agriculture and Rural Economy in Moscow. Moscow, 8vo.

From this pamphlet we learn that peasants are sent from the remotest parts of the empire, even from Kamtchatka, to the agricultural school at Moscow; and there they are said to make so much progress, that much national improvement is anticipated.

Anon. Avantages résultant de l'Introduction de la Culture variée des Terres. Warsaw, 8vo.

The author cultivates his own estate in the neighbourhood of Warsaw; on which he informs us he has introduced an improved succession of crops in the British manner. He is the author of an Agricultural Catechism in the Polish language. (See *Bibliotheka Polska*, n. 4.)

AMERICA.

Memoirs of the Board of Agriculture of the State of New York. Published by authority. Albany, 3 vols. 8vo.

The New York Board of Agriculture was organised in 1820; the first volume of its transactions was published in 1821, and the third and last in the beginning of 1826, when the Society became extinct in consequence of the expiration of its charter. Besides a number of original papers written in America, these volumes contain extracts and abridgments from British works, in almost every department of agriculture and horticulture. The selection seems to have been made with great judgment, and the work cannot fail to be of much real use in the country where it was published. As soon as we can find room we shall extract several notices from it, especially on the subject of insects. The second and third volumes were edited by Jesse Buel, Esq. F. H. S., a distinguished cultivator, whom we hope to reckon among the number of our contributors.

ART. III. *Books preparing for Publication, &c.*

The Transplanter's Guide; or, a Practical Essay on the Removal of Forest-Trees and Underwood in a Full-grown State; being an attempt to place the Art on fixed principles, and to apply it to general purposes, useful and ornamental. Interspersed with Observations on Picturesque and Park Scenery, and the Cultivation of Woods. To which is added, a Review of the principal Forest-Trees cultivated in Britain, and some account of their uses, properties, and general character. By Sir HENRY STEWART, Bart., LL.D. F.R.S.E., &c. Edin. 8vo. In the press.

An Introduction to Botany for the Use of Gardeners and Farmers, in which both the Linnean and Jussieuean Classifications will be explained, and each Order of both Systems illustrated with an engraving of a dissected flower, &c.— (*See* p. 434.)

A Drawing Book for young Gardeners and Farmers, calculated for Self-instruction in drawing Ground Plans and Maps, Architectural Elevations, Machinery, Landscapes, Figures, Flowers, and Insects, including preparatory Lessons in Perspective and Geometry.

These works will be sold at such prices as will bring them within the reach of every journeyman gardener.

Dr. Hooker's Exotic Flora, (*Gard. Mag.* 47 and 60), it is said will be discontinued, and the Botanical Magazine hitherto conducted by Dr. Sims, continued by Dr. Hooker.

Some account of *Hortus Carlsruhanus, Hortus Croomensis*, and other books sent us, will be given in next number.

PART III.

MISCELLANEOUS INTELLIGENCE.

Art. I. *Foreign Notices.*

FRANCE.

PATENT Ice House at St. Ouen, near Paris. This immense repository is a hundred feet in diameter, and the interior is said to be contrived in a very superior manner to prevent the thawing of the ice, of which it will hold upwards of ten millions of pounds. It has hitherto been supplied from the Seine and the canal of St. Denis, but experiments have been made which prove, that even in the mildest winters the ice establishment of St. Ouen will collect enough from its own territory (probably by exposing a thin sheet of water in an isolated porous basin,) to supply a very great consumption. The directors of this establishment have also occupied themselves with plans for rendering the use of ice more commodious, and less expensive to the consumers. Instead of the latter having to send for the ice, it will be sent to them, in vessels calculated to prevent all loss by thawing. They offer to the public, 1. A fountain, which will preserve wine, water, or other liquids at the temperature of 32° Fahrenheit from morning till evening. 2. Portable ice-vessels, to contain from one hundred to five hundred pounds of ice, and which will preserve it from twelve to fifteen days. 3. Refrigerators, for cooling the chambers of sick persons, offices, and workshops. — The glacières portatives, may be seen or purchased at Paris, rue Neuve-Saint-Augustin, No. 3. (*Revue Encycl. Avril*, 1826. p. 264.)

Paragrêles. A report on this invention has been made to the Academy of Sciences at Paris, which is favourable to their utility. A society of assurance against the effects of hail is already formed on the faith of the success of paragrêles. (*Bull. des Sciences Agricoles. Juil.* 1826, p. 61.)

Copperas. This metallic salt is known to be poisonous to plants; so much so that it is said the roots of weeds may be killed by mowing them with a scythe, the blade of which has been sharpened with a stone previously steeped in sulphate of iron. We notice this as a specimen of absurdity founded in fact. (See *Bull. de la Soc. d'Agric. de l'Hérault. Mai*, 1825, p. 163.) If weeds can be so killed, then ground may be manured by being dug with a spade stuck every now and then in a dunghill.

To destroy the weevil among corn. Lay fleeces of wool, which have not been scoured, on the grain; the oily matter attracts the insects among the wool where they soon die, from what cause is not exactly known. M. B.C. Payrandeau related to the Philomathic Society of Paris, that his father had made the discovery in 1811, and had practised it on a large scale since. (*Bull. des Sciences Agricoles, Juill.* 1826, p. 24.)

A Society for the Amelioration of Domestic Animals has been proposed by M. Sénac, Editor of the Bulletin des Sciences Agricoles. (*See that Work for May*, 1826, p. 303.)

An Agricultural Establishment under the patronage of the king, and the administration of a council of ten persons, has been formed for the purpose of improving a portion of government territory, valued at a million of louis. (*Constitutionnel, Avril* 28. 1826.) Another company is proposed to be formed for embanking certain lands in the province of Britany. There are to be a great number of shares, and great profits are of course promised. (*Bull. des Sciences Agricoles, Mai,* 1826.)

Trianon Nursery, near Rouen. (*Encycl. of Gard.*) A correspondent has sent us the following information respecting this establishment: "Messrs. Calvert and Co., Englishmen, who have undertaken it, profess to show the foreign cultivators that, with care and attention, plants may be as easily cultivated in France as in England, which the French gardeners are said to deny, on account of the difference of climate. In order to effect this purpose, they began with French gardeners, but were soon obliged to have recourse to Britons. With these they propagated different species of heaths, and various Cape, Botany Bay, and Chinese plants, with perfect success. The French gardeners were surprised to see white sand used for this purpose, thinking that the whole of the pot was filled with that material.

"The chief object in establishing this nursery was to cultivate plants there which succeed better in France than in England, such as roses, oranges, &c., and then bring them over to this country for sale. A cargo of roses is in consequence sent over every year from Rouen, and partly sold wholesale to the nurserymen and partly by retail. The list is said to contain some hundreds of names, and next year we are promised about one hundred and twenty varieties of China roses; between seventy and eighty varieties of Noisettes, and seven or eight varieties of Rosa odorata." (C. *June* 26.)

HOLLAND.

Hay and Pasture Grasses. The Agricultural Society of Amsterdam have offered their first medal, and a sum in ducats, for the best essay on the grasses of Holland, to be given in by December, 1826. (*Bul. Univ.*)

Enrichment of Down Lands. In 1805 a French camp was established near Ostend, on the downs bordering the sea. Its surface for a foot and a half deep was composed of shifting sand, which rendered the situation scarcely habitable. In a short time this camp was surrounded by fortifications of turf; the barracks were built of turf, and covered with thatch, and each house had a seat before it, and a garden behind containing excellent kitchen crops, and ornamented with pots of flowers and shell-work. The soil was rendered fertile by the soldiers bringing sacks of earth on their backs, from half a league to a league distance. Wells were dug in various places, and the improvement was completed by continual watering. (*Rev. Encycl. Decem.* 1825.)

GERMANY.

Bavaria. The King has recently founded and endowed an Institute for extending a theoretical and practical knowledge of agriculture. The Institute is divided into three classes, in each of which the number of pupils is fixed, and the instruction public and gratuitous. In the first class, a knowledge of agricultural labour, of the most approved methods in use, and of the management of the different agricultural implements, &c. is inculcated. In order to be admitted into this class, the pupils must have a healthy constitution, adapted to agricultural labour, such elementary knowledge as is usually acquired at country schools, and be at least sixteen years of age. In the second class, theory and practice are united; the labours of the pupils are directed by experienced professors, and a knowledge of botany, zoology, and natural philosophy, in as far as these sciences are connected with agriculture, inculcated. The third class is intended to form agriculturists, who may eventually aid in extending the boundaries of the science, and is limited to those who have previously attended the second class.

Charring Wood. M. de la Chabeaussière chars wood in fixed kilns made of turf much in the same way that lime is burnt in this country. The advantages, he says, are saving of time and labour, and less loss of material. (*Schles. Gesellschaft, &c.* 1824.)

Preservation of Grain. Mr. Gall proposes to place large barrels endwise on one another, and connecting their bottoms and tops by tubes, which have sliding stoppers. All the barrels being filled but the under one, when it is wished to air the grain, the sliders are drawn, and the grain drops from one into the other, &c. (*Allg. Handl. Zeitung*, 1825. *Nov.*)

Erysimum, or Wild Mustard. In Franconia this plant is extremely troublesome in the fields of barley, in which it rises so high as to be cut along with the crop, and consequently infest the sample of grain. The way the farmers take to lessen the evil, is to steep the barley, before sowing it, in the drainings of a dunghill till the seeds of the mustard germinate. The barley is then taken out and sown along with the sprouted mustard; the latter of course does not grow. (*Bul. Univ.*)

DENMARK.

Salt as Manure. In the Nye Landsækonomischer Tidender (New Agricultural Journal), published in Copenhagen, an account is given of an experiment to try the effect of salt in the culture of potatoes and cabbage, but the produce in cabbage was not so good as usual, and no difference was produced on the crop of potatoes. (ii. *Band.* 1 *St.*)

Royal Farm. Near the palace of Frederiksborg the king has a farm, called Faurholm, which has been laid out on a most extensive scale by Mr. Nielson. "I saw thirty-two pair of horses here, harrowing at one time. The land is cultivated in the English manner, and Eilkington's system of draining had produced wonderful effects. All implements of husbandry used, were made under Mr. Nielson's directions, on English principles. Hedging was likewise carried on to some extent. Mr. Nielson has, however, reasons of a local nature for not extending fencing generally. Hence the king's farm, in many places, resembles a tract of land in Cambridgeshire, which, from its bleak and bald appearance, made me think I was not in England. On this farm Mr. Nielson has reared a most beautiful breed of cattle, from a Zealand bull and a Jutland cow. When I first saw them, they gave me as much pleasure as a remarkable breed of cattle gave Mr. Gilpin. His description may answer to both, being elegantly and neatly formed, rather small, and generally red. Their horns are short, their coats fine, and their heads small. The Danish breed are excellent milkers, and yield fine beef. I was particularly pleased to see some fine ploughs, constructed on English models, which were to be used at a ploughing match on the king's farm, the first, I believe, that had yet taken place in Zealand." (*Feldborg's Denmark.*)

SWEDEN.

Professor Agardh, who has kindly undertaken to send us the horticultural news of his country, informs us that the greatest improvements at present making in Sweden are by the Count Bonde, on his estate of Safstalistow, near Stockholm, some particulars respecting which he promises us in a month or two. (*August* 22.)

RUSSIA AND POLAND.

Potash of Russia. This alkali is obtained from every species of wood indiscriminately, but chiefly from the roots of the Scotch fir, when the trunk has been cut down for timber. The ashes, when lixiviated, are collected and packed in casks, which before they are exported undergo an examination in presence of the foreign merchant who purchases them. (*Edin. Philos. Journ. No.* 23.)

Horticulture at St. Petersburgh. The following memoranda have been sent us by an eminent English gardener there:—

Peaches grown to ripen in August and September, are not so good flavoured as those ripened in May, June, and July; as frequently in August and September we have cold nights; and it is observed, that if the thermometer remains below 6° of heat (say 45° Fah.) for any time, the peaches and apricots become insipid, and without flavour. Apple trees about St. Petersburgh generally remain unprotected in the open air, but sometimes in very severe winters they are injured by extreme frosts. Plums rarely ripen unassisted with glass, the season being too short. Cherries of the best sorts are all protected by being planted in large sheds, and covered with shutters during the winter. Early in the spring these are removed, and entirely exposed to the open air, in which manner they ripen to perfection. Apricots force equally well as peaches: there is a house in the Taurida garden containing nine trees planted in the ground, which frequently produce 5000 fruits. (*T. A.*)

Burning Steppes in Siberia. After the thawing of the snow, the dried herbage on the surface is set fire to, in order that it may not injure the growth of the new vegetation, which springs up from self-sown seeds; for there are few perennial plants in that country. The flames extend in all directions, and travel over extensive tracts of country, and the appearance at a distance is like an immense ocean of flame. (*Annali Universali, &c. August*, 1825.)

Sandomir Wheat, commonly called Polish Wheat. This variety is cultivated in Moravia, by M. de Harkenfeld, administrator of the domains of that state, who describes it as growing upon an inferior soil, requiring less seed per acre, admitting of being later sown, more productive, and bearing a higher price than the common wheat. Sandomir is the name of a Polish province. (*Bul. Univ.*)

NORTH AMERICA.

The Timber of the Scotch Pine is said to be much improved in quality by being cut down in May when it has begun to grow, and then immersed in water. This is the practice in Virginia, and other parts of America, with all the pine tribe, and it is said by the inhabitants to retain the turpentine and resin more effectually than by cutting in winter, or cutting at any season without steeping in water. Of course the durability of the timber will materially depend on the quantity of these principles which are fixed in it. Deciduous trees the Americans always cut down in mid-winter. (*J. B.*)

The tender Tops and Leaves of the Potato, boiled and dressed as spinage, or boiled with salt meat, are very palatable, while the plants are not much injured by being deprived of them. (*Canadian Paper.*)

Feeding Swine in Mexico. Fine breeds of pigs are kept for their fat, which is used as a substitute for butter in Spanish cookery: the offal fat is manufactured into soap, and the blood into a kind of black pudding, and sold to the poor. The swine are fed with maize, " slightly moistened and scattered at stated hours on the ground, which, in the yard as well as the place where they sleep, is kept perfectly dry and clean. They are attended by Indians with every possible care,—there is a cold bath on the premises, which they are obliged frequently to use, as cleanliness is considered essential to their acquiring that enormous load of fat from which the principal profit is derived. Their ease and comfort seem also in every respect to be studiously attended to; and the occupation of two Indian lads will cause a smile on the countenances of my musical readers, when they are informed that they are employed, from morning till night, in settling any disputes or little bickerings that may arise among the pigs, either in respect to rank or condition, and in singing them to sleep. The boys are chosen for the strength of their lungs, and their taste and judgment in delighting the ears and lulling the senses of the swine; they succeed each other in chanting during the whole day, to the apparent gratification of their brute audience." (*Bullock's Mexico*, vol. i. p. 251.)

Chinampas, improperly called floating Gardens. The description of these by Humboldt falls greatly short in singularity, to that previously given by the Abbé Clavigero; and that of Mr. Bullock falls equally short of the former: so that what was considered one of the wonders of the world thirty years ago, when it has undergone the test of close examination, comes at last to be little more than an ordinary appearance; and a chinampa in the Mexican lake, differs only from a small osier holt in the Thames, in being planted with cabbages and potatoes instead of willows. "They are artificial islands, about fifty or sixty yards long, and not more than four or five wide, separated by ditches of three or four yards in width, and are made by taking the soil from the intervening ditch, and throwing it on the chinampa, by which means the ground is raised generally about a yard, and thus forms a small fertile garden, covered with culinary vegetables, fruits, and flowers. Mexico receives an ample supply from these sources." (*Bullock's Mexico*, p. 176.)

CHINA.

Chinese Work on Agriculture and Gardening, entitled Tchoung-kia-pao. This work, in four volumes, begins, like that of Hesiod, with the elements of morality, and then proceeds to treat of all that is necessary to be known of the country, agriculture, gardening, laws, and medicine. This work formed part of the Chinese writings on agriculture which were excluded from the general proscription of books in the third century after the Christian era. The Chinese have a fine poem on gardening published in 1086. The author is one of the first Chinese writers, and the greatest minister that it has produced. His garden, which gives a general idea of the style of Chinese gardening as an art of taste, contains only 20 acres of land. An apartment containing 5000 volumes is placed by the author at the head of its useful beauties. On the south is seen, in the midst of the waters, cascades, galleries with double terraces, hedges of rose and pomegranate trees; on the west a solitary portico, evergreen trees, cottages, meadows, sheets of water, surrounded with turf, and a labyrinth of rocks; on the north, cottages placed as if by chance on little hills, groves of bamboos with gravel walks; on the west a small plain, a wood of cedars, odoriferous plants, medicinal plants, shrubs, citron trees, orange trees, a walk of willows, a grotto, a warren, islands covered with aviaries, bridges of wood and stone, a pond, some old firs, and an extensive view over the river Kiang. Such was the delightful spot where the author of the poem amused himself with hunting, fishing, and botany. At that time we had no garden in Europe to be compared to it, nor any man who could describe it in good poetry. Madame Dubocage translated a Chinese idyll into verse, entitled "The Labourer," and which has the same date as this poem on gardening. The imposing ceremony of the commencement of the labours by the emperor himself in the beginning of spring is still more ancient in China. It was established 150 years before the Christian era. The soldiers in China plough, sow, and reap. In the tribunals of the empire there is a president, superintendent, and director-general of agriculture. (*Olivier de Serres, Historical Introd. to the edit. of* 1804.)

ART. II. *Domestic Notices.*

ENGLAND.

ROSS Horticultural Society. The ninth exhibition of this distinguished and increasing institution, took place on the 26th of July. This being the last show this year for flowers, a full meeting was expected, and it was realised in the attendance of upwards of 250 subscribers and their friends. The room on the opening was not so much crowded, in consequence of the heat experienced at the previous meeting; a succession, however, of subscribers kept entering till a late hour, and the interest never flagged, and the removal of the plants was postponed an hour at the request of the company. The collection at the door from the public much exceeded any previous meeting; also the sale proceeds, (except the Autumn first show,) and upon the whole this was the most numerously, and best attended meeting, since the society was established. The ground stand was probably never better filled with choice and splendid varieties of hot-house, green-house, and hardy plants, and the mass of foliage and flowers was singularly unique and beautiful. Several very large well-bloomed specimens of the double and single oleander, blue, and white campanula, towering above their compeers, with the purple, blue, red, and white hydrangea, contributed much to the group, and were universally admired. The stage of carnations, piccotees, and dahlias, contained about 300 flowers, and were, for the season, very fine; and those selected by the censors on the prize-stand, were fully equal to those bloomed in a favourable season. Mr. Miller, of Bristol, exhibited his new seedling, double dahlia, which for size, colour, and form, surpasses any yet grown, and is richly entitled to the distinguished name he has given it of George the Fourth. This splendid specimen must be in great request next season, by the admirers of this beautiful Autumnal flower. The stage for balsams and cockscombs, exhibited for prizes, produced very fine specimens. The fruit-table was laden with upwards of five dozen plates of specimens; the gooseberries were very fine, but not equal to those exhibited last year, as proved by the scales, for some then weighed nearly 20 dwts., and none now exceed 17 dwts., which was attributed to the continued drought. (*Gloucester Journal, August 5.*)

Hereford Horticultural Society. On July 21st, the third exhibition of this society took place in the great room of the Shire Hall. The display of flowers equalled the former ones, and the show of fruit was excellent. There were several plates of gooseberries, all of the finest sorts; also peaches, nectarines, &c. &c.; but owing to the unpropitious season, not a single vegetable was sent for exhibition. (*Gloucester Journal, July 29.*)

Yorkshire Horticultural Society. The summer meeting of this society was held at the Star and Garter Inn, Kirkstall, on July 19th, Norrison Scatchard, Esq. of Morley, in the chair. After a few introductory remarks relative to the meeting, he observed, that owing to the late excessive drought, the show of flowers was very small, but that the show of fruit was very fine. The prizes awarded were very numerous. During the meeting a fine specimen of the Yucca Gloriosa, or Adam's needle, the stem of which was said to be upwards of 10 feet high, and having upwards of 600 flowers upon it, was exhibited by the gardener of Messrs. Backhouse, of York. A fine specimen of the tulip tree, from the garden of T. B. Pease, Esq. was exhibited by Joseph Moor. A fine plate of last year's apples, in an excellent state of preservation, was exhibited by the chairman, who explained, at some length, the method of preserving them. (*Leeds Mercury, July* 22.) At the Meeting of Sept. 6th, above twenty prizes were given away to gentlemen's gardeners, and nearly as many to market gardeners and nurserymen.

The Hampshire Horticultural Society met at Southampton on the 4th of August. The display of fruits, particularly melons, grapes, apricots, and figs, was very fine. Captain Rainier presided. (*Salisbury Journal, August* 12.)

The Cambridge Horticultural Society have held several meetings in the course of the season, and awarded various prizes for fruits and flowers.

The Lancaster Pink and Ranunculus Show was held June 23d. Twenty prizes were awarded for pinks, 18 for ranunculuses, 7 for fruits, 5 for roses, 3 for green-house plants, and 4 for geraniums. The first prize for pinks was taken by Mr. Hargreaves, for Mary Anne; the second by Miss Dalton, for Cato. Grapes, melons, and strawberries obtained prizes; the best pine-apple was shewn by Miss Towers, and the first prize for geraniums taken by Mrs. Machreth. (*Com. by Mr. Saul.*)

The Lancaster Carnation and Fruit Show was held July 20th. Thirty prizes were awarded for carnations, 12 for piccotees, 2 for seedlings, 2 for green-house plants, 2 for hardy plants, and 7 for fruit.

The Manchester Carnation Show, was held July 19th. Forty prizes were awarded for carnations, 16 for piccotees, 6 for stove plants, 6 for green-house plants, 7 for hardy plants, 8 for dahlias, and 37 for fruits.

Preston Pink and Ranunculus Show, June 21st 1826. Eighteen prizes were awarded for pinks, 15 for ranunculuses, 4 for roses, 4 for green-house plants, 5 for hardy plants, and 12 for fruit. Among the hardy plants, were Coreopsis tinctoria, and Cytisus nigricans. (*M. S.*)

The Preston Carnation and Fruit Show was held on July 19. Twenty seven prizes were awarded for carnations, 12 for piccotees, 8 for green-house plants, 7 for hardy plants, and 13 for fruit.

The York Carnation Show was held July 18th. Twenty-five prizes were awarded for carnations.

Windsor Carnation Show, July 21. Mr. Gould, of the Royal Gardens, Windsor, carried off the first prize; and Mr. Wilmer, Nurseryman, Sudbury; Mr. Humber, of Gerrard's Cross; Mr. Kelner, of Windsor; and Mr. Weedon, gardener, Hillingdon; took the remaining 4 prizes. The judges were Mr. Lovegrove, and Mr. Hansom, florists of Windsor. (*Communicated by J. P. Burnard, Esq.*)

The Uxbridge Carnation Show was held July 12. The first prize was taken by Mr. Gould, the second by Mr. Bagley, the third by Mr. Kelner, the fourth by Mr. Wilmer, and the fifth by Mr. Smith.

Mr. Hogg, Florist, Paddington, has perhaps the most complete collection of carnations and piccotees in the world. He has printed a catalogue of them on a single sheet, which may be sent by post, in which they are arranged as British, French, and German sorts. Some of the latter, especially the piccotees, are of great rarity and beauty.

At the annual Melon Feast held lately at Southampton, the gardener of Lord Rodney obtained the first prize; making the one hundred and forty-third, which, during twenty-six years' service the same individual has gained, amounting in all to 150*l.*

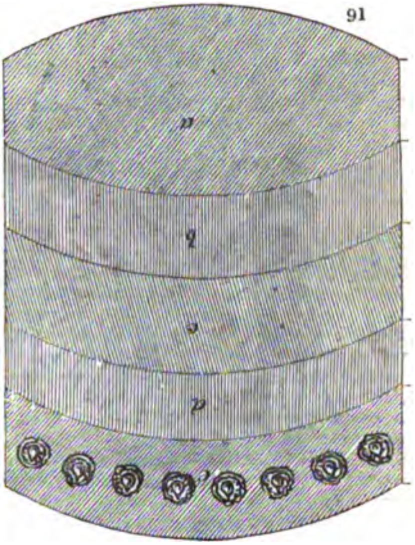
Gooseberry Shows. Our obliging correspondent, Mr. Saul of Lancaster, informs us that this year has been a very unfavourable one for gooseberries. Mr. Broaderton of Cheshire, informed him, that his heaviest berry this year weighed only 22 dwts.; whereas, last year, he had one that weighed 31 dwts.; the greatest weight he has heard of this season is 23 dwts.

Brighton Athenæum and Oriental Garden. The Committee feel it incumbent on them to state to the Shareholders of this Institution, the progress which they are now making in its establishment. The Forcing-house, which has been for some time erecting, is now completed; and many valuable plants have been removed into it. The grounds have been formed into a garden, which is so planned as to fit it for the erection of the Glass Conservatory, whenever the Committee have the means of carrying that desirable and splendid object into effect.

The building of the Athenæum is commenced, and from the progress which it is making, there is no doubt it will be completed during the summer. The Committee will anticipate no observations on this building, confident, that when finished, its beauty and convenience will be duly appreciated by all who see it. A Library is now forming upon an extensive scale: many of the Shareholders and Subscribers having promised to contribute the loan of books, for the accommodation of the Institution, thereby forming a central point for valuable works, to which all may have access, and without the necessity of the Institution, in the first instance, incurring any expense. (*General Frederick St. John, Chairman.*)

Tulip Beds. Mr. Saul sends us a section (*fig.* 91.) of a tulip bed, which has just been put into his hands by an extensive tulip-grower in Lancashire, and which he thinks it may be useful to publish at this time, as tulips are generally planted in November. The bed consists of five stratums; the bottom one (*a*), is composed of a mixture of manure and fine loam; the second (*b*), of two fifths fine loam, one fifth sand, and two fifths manure; the third (*c*), of three fifths fine loam, one fifth sand, and one fifth very rotten manure; the fourth (*d*), of fine loam, with one fifth of sand; and the sixth, or top stratum (*e*), of fine sandy loam, not too light. In this last stratum the bulbs are planted in a nucleus of pure sand. The bed may be of any length, but four feet six inches is the most convenient width, as it admits of eight tulips in each row across the bed; the advantage of this number is, that sixteen tulips may be supported by four rods, each rod being placed in the centre of four tulips, and a piece of leaden wire turned round the rod, and reaching to each of the stems, &c. (*fig.* 92.) The bulbs are planted about six inches apart every way, and from two and a half to three inches deep. (*Lancaster, August* 20.)

91



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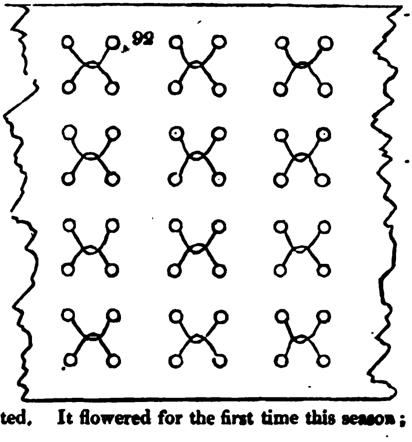
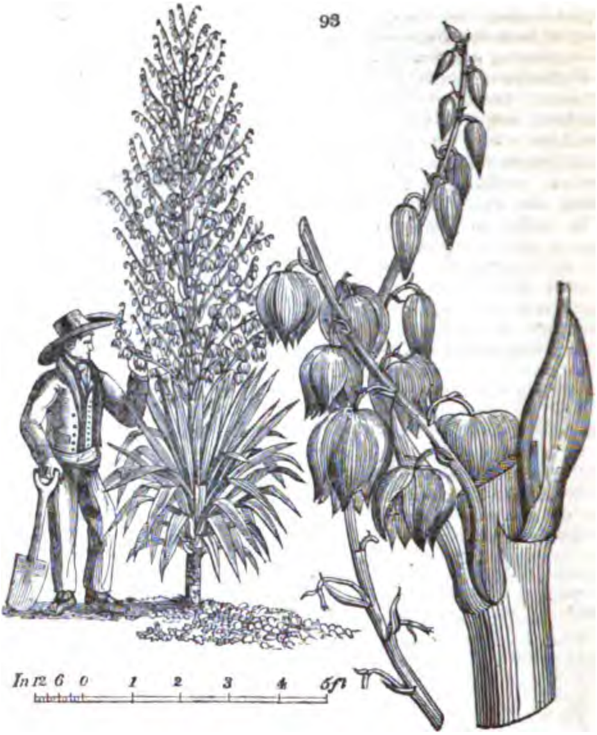


Yucca gloriosa. Few British Summers have witnessed so many of this fine plant in bloom as that which has just passed. The highest we have heard of in England, is that of Mrs. Marshall, near Manchester. One in the nursery of Mr. Viner, at Windsor, is thus described by Mr. Thomas Ingram, gardener to the Princess Augusta, at Frogmore, whose letter was accompanied by a sketch (*fig.* 93). "It has been planted in the nursery twelve years, and was, probably, two years old when planted. It flowered for the first time this season;

the height of the plant, from the ground to the summit, is twelve feet six inches; the flower stalk is nine feet six inches. About forty-seven panicles grow out of the stalk, each of which is eighteen inches or upwards in length; with between twenty and thirty flowers on each panicle. The flowers are bell-shaped, white, with purplish stripes on each petal; they hang downwards, have a little odour, but not very pleasant, and remain in bloom about three weeks." Mrs. Marshall's Yucca flowered in her green-house, August 4. The plant is about fourteen feet high; it is twenty years old, and has flowered three times. The flowers, which on each successive blooming are larger than at the former, are bell-shaped, on a stalk about three and a half feet high, and project from it in a conical form. (*See* p. 458.)

93



Koelreuteria paniculata, like many other exotics, has bloomed remarkably strong this year, in consequence of the wood having been so well ripened last year. We have seldom two such dry warm summers in succession. Specimens of the flowers of a tree at Ham House, Essex, were sent us, and a description of the tree by Mr. James Loudon, gardener there. It is between thirty and forty feet high, with a trunk nearly one foot in diameter, and twelve feet from the ground to where the first branches protrude. The branches form a conical head, thirty feet wide at the base; which, on the 8th of August, was completely covered with bright yellow blossoms, to the admiration of every body who saw it.

There is a *Constantinople Nut Tree*, (Corylus Colurna), at Ham House, forty feet high, the trunk about three feet and a half in circumference, and clear of branches to the height of fourteen feet; the branches form a flattened cone, above fifty feet wide at the base, and heavily laden with nuts.

94

Coreopsis tinctoria. (*Fig.* 94.) — "Sir, — I send you an account of the Coreopsis splendens, of gardeners, (*the C. tinctoria of Nuttal*), which I think every one ought to know, and which cannot be better circulated than by your useful and entertaining Magazine. When first I procured the seed of it, I was told that it was a tender annual; but I find, by experiments made by an amateur, and a gardener of Sussex, that it will stand the winter very well. Each planted some young plants in pots, which they kept out all the winter, as far as January, when the former, during the severe weather at that time, placed his under shelter: afterwards he kept them out, without their receiving any injury; the latter never gave his plants any shelter at all, and still they received no injury. The seeds were planted as soon as any ripened, and when they came up, pricked out singly. Perhaps this might have been tried by others, and information given to you, but for fear it should not, I have.

"I remain, Sir, yours, &c.

"*August* 26. "An Amateur of Sussex."

This splendid annual is so hardy, that seeds, self-sown last autumn, in several gardens near London, have stood the winter, and have been in flower since May last. It is one of the most valuable additions to our hardy annuals which have been made for some years. A new and equally splendid species is now in bloom in the nursery of Messrs. Allen and Roger, King's Road, which will, very probably, be as hardy as the other. It has the leaves of C. tinctoria, and the flowers of C. lanceolata. (*Cond.*)

Melianthus Major. W. B. writes, that he flowers this plant freely, by divesting it of suckers, and training it to a single stem; it sends out shoots at the top, which terminate in large, white, honey-smelling flowers. (*Stirlingshire, June.*)

Sweet-scented Cyclamen. Plants of this variety, of C. Europeum, have been received by Messrs. Rollison, of Tooting, from Mr. Seidel, of the Botanic Garden of Dresden, who procured them from Hungary. They were beautifully in flower during August and part of September. A very fine new heath, something in the way of aristata, has also bloomed, for the first time, in this nursery.

Pince's Golden Nectarine. Specimens of this fruit were sent us by Messrs. Lucombe, Pince, and Co., Nurserymen, Exeter, for our opinion as to its merits. It is one of the finest coloured nectarines we ever saw, and well merits the appellation of golden; it is more than usually large, and equal in flavour to any of the old varieties. Were it not that we are inclined to distrust first impressions in tasting new fruits, we should say that it was remarkably high-flavoured. It was gathered on the 2d of September, and received by us on the 5th instant. Messrs. L. P. and Co. say, "to possess their full flavour, the fruit should remain on the tree until shriveled; consequently, the specimens now sent, are, for the sake of carriage, rather prematurely gathered. The tree which produced the fruit now sent has never been budded upon any stock, but is merely the original seedling plant; and has produced this season about ten dozen of fine nectarines. It was raised by our partner, Mr. Pince, and we have called it Pince's Golden Nectarine." (*Exeter, September* 2.)

A Cucumber is now growing in the garden of the Rev. B. Bluett, of Hay-grass, near Taunton, which measures *three feet six inches long!* (*Taunt. Cour., July.*)

White Providence Pines cut in the pinery of John Edwards, Esq., at Rheola, Vale of Neath, Glamorganshire. *Sept. 7th*, one 11 lbs. 15 oz.; circumference 21 inches, height 10½ inches, 4 gill suckers. *Sept.* 10*th*, one 14 lbs. 12 oz.; circumference 26 inches, height 12 inches, 4 gill suckers. The gardener at Rheola is Mr. Robert Dixon. (*Com. by J. H. L. Esq.*)

Hamburgh Vine. There is now growing in the peach-house of S. T. Southwell, Esq., Wroxham Hall, Norfolk, a young vine, of the black Hamburgh, of two years' training. It occupies seven rafters in the house, and has produced the extraordinary weight of eighty pounds of grapes. This is the first season of its producing fruit. It was reared and trained by J. Bridges, the gardener there. (*County Chronicle.*)

Fruits infested with Worms, &c. In consequence of the extreme drought of the summer, the autumnal fruits are found this season to be much infested with worms and maggots. This is peculiarly observable in pears. Under these circumstances, we conceive it our duty to warn our readers, and particularly such as have young families, against the injurious effects likely to result from eating fruit in the state alluded to. It is necessary that every discoloration produced by the maggot be cut clean away, before the fruit is eaten; as, unless this precaution be taken, the effects upon the intestines, particularly of children, are frequently most serious, and often fatal in their results. An eminent physician of this neighbourhood has stated his conviction, that a very few grains of the discoloured substance to be seen in a pear when worm-eaten, are sufficient to cause a disorder in the intestines of a most dangerous character. (*Nottingham Herald.*)

Currants, raspberries, and gooseberries are this season found to be particularly injurious to those who indulge in them, whether eaten as a dessert, or used in pastry. The dry weather occasioned them to ferment on the bushes, instead of attaining a proper degree of ripeness, and many of the prevalent maladies, *cholera morbus*, diarrhœa, and other stomach complaints, are attributed to this cause. (*Taunton Courier.*)

Mangold Wurzel. At the Doncaster Agricultural meeting, Lord Althorpe described an interesting experiment which he had made to ascertain the comparative merits of Swedish turnips and mangold wurzel, in the fattening of cattle; the result of which went to prove the superiority of the latter. His lordship further observed, that during the present droughty season, when the turnips had been nearly burnt up or destroyed by the fly, mangold wurzel had flourished, and was an abundant crop. (*Farmer's Journal.*) A correspondent (D. B.) informs us, that mangold wurzel may be used for feeding dogs, and that they are very fond of this root, while they will not eat the turnip.

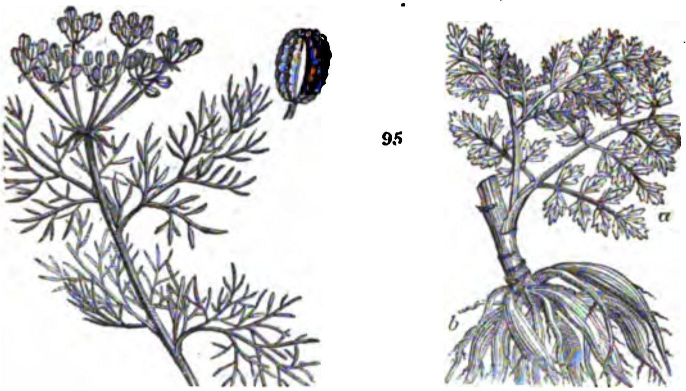
Moveable Trellis. — We have seen a very handsome model of a hot-house, containing a trellis of this description in the manufactory of Mr. Long, of Chelsea. The trellis may be raised or lowered at pleasure with the greatest ease by one person; it may be constructed either of wood, or of wood and wire combined. Mr. Long has had great experience in hot-house building, and showed us a variety of plans and elevations of structures of this kind, some of them on a large scale and very ornamental, which he has erected in different parts of the kingdom. He is a remarkably correct and neat draughtsman, and being also a practical man, we think we are doing our readers a service by pointing him out to them. — (*See his advertisement in page* 473.)

To scare Birds from Cherries. Fasten the ends of long shreds of linen to the branches, and let them blow about. (*Irish Farm. Journal, June* 3.)

New Trap for Sparrows. Few birds are more difficult to scare or destroy than the common sparrow. D. B., a correspondent, once saw a flight of these birds fluttering over a toad, and so completely absorbed were they by something about the animal, that they permitted his approach within three or four feet before they flew away. He conjectures that they may have been attracted by the eyes of the toad, which, it is well known, are remarkable for their brilliancy; and he suggests the idea of employing toads as traps, which may attract birds, and allow them to be conveniently shot at; but before he indulges any farther in speculations of this sort, he wishes to know if any reader of the Gardener's Magazine has observed any similar phenomenon.

Horticultural Impostor. A man has gone about London, the two last autumns selling the roots of œnanthe crocata, for those of a newly imported species of dahlia. He found a number of purchasers. As the œnanthe is one of the most powerful of vegetable poisons, the substitution of its roots for those of the dahlia, which are edible, may possibly be attended with dangerous consequences. The following description of this plant is from Gray's "British Plants."

Œnanthe crocata, yellow-water drop-wort, Hemlock drop-wort, dead tongue, &c. Pentan. dig. Lin. Umbelliferæ, Juss. (*Fig.* 95.)



95

Leaves bipinnate, (*a*); leaflets all wedge-shaped, many cut, nearly equal; involucrum many leaved. Root tuberous, (*b*) tubers blunt, sessile, crowded; stem upright, four feet high; leaves dark green, bald; umbels terminal, many rayed, hemispherical; grows by water-sides; perennial, flowering in July.

A Gardener near Northampton, was lately convicted in 15*l.* penalty, and treble the value of the fruit, for stealing 23 bunches of grapes, the property of his master. It was not his first offence, as it appeared he had sent at different times packages by coach to a fruiterer in London. (*Gloucester Journal, July* 29.)

We forbear giving the name of this unfortunate gardener, sincerely hoping that he will repent and amend. No man ever departs from the direct line of probity, who does not experience, sooner or later, the truth of the old maxim, "honesty, &c."

SCOTLAND.

Caledonian Horticultural Society. The Second Report of the Garden Committee of this Society has been printed. The following is an abstract: —

A period of more than a year has elapsed since the Garden Committee, acting under the direction of the Council, made their first report. It was then stated, that the operations of levelling, forming, and inclosing the ground were in active progress; and the Committee have now the satisfaction of reporting that they have been nearly completed. The several portions of land allotted for the arboretum, the orchards, the culinarium or kitchen-garden, the flower-garden, the melon-ground, and other smaller compartments, have, in different instances, been inclosed by raised belts of trees and shrubs, or by fences of holly or hornbeam, which, in a short time, will contribute greatly to the purposes both of shelter and beauty. On every side the ground is now shut in either by walls or paling: and, keeping in mind the experimental purposes of the institution, the chief wall on the north side has been built of different materials, and with different forms of coping, with the view of ascertaining which mode of construction may prove most advantageous for fruit-trees of various descriptions. Water of good quality has been obtained in great abundance from the Botanic Garden, and it is in contemplation to form the pond for aquatics, with its appropriate rock-work for alpine plants, as soon as the more urgent operations of planting are completed. Since the former report, an excellent dwelling-house, in the cottage style, from designs furnished by Mr. Playfair, architect, has been built for the superintendant or head gardener; and estimates have been required for erecting a small green-house and hot-house, for the reception of such exotic fruits and flowers as may be presented to the society. These glazed houses will be constructed with the view of forming hereafter a suitable portion of the more extended range described in the original plan.

The Committee beg leave shortly to repeat, that the objects which will chiefly claim attention in the experimental garden, are the cultivation of the different varieties of fruits and esculent vegetables, paying strict attention to the qualities and habits of each, and instituting comparative experiments on the modes of culture to which they are usually subjected, so as to obtain a knowledge of the best varieties, and the most successful methods of culture. Specimens of the finer varieties of plants which adorn the shrubbery and flower-garden, will also be selected; and, in every department of horticulture, new plants, and new or improved varieties of those already known, will be sought for. By means of an extensive correspondence with eminent horticulturists, both at home and abroad, it is hoped the Society will be able to collect, from different countries, many of their various products of vegetables, fruit-trees, shrubs, and ornamental plants. Of these they will endeavour to naturalize the finer and more useful kinds to our soil and climate; and they will communicate to the public, from time to time, the results of their experiments, so as to render their labours generally useful.

Cuttings, and, as often as possible, rooted plants of the various fruit-trees cultivated in the garden, will be freely distributed to shareholders and members, according to regulations hereafter to be made. Strawberry plants, and new or rare varieties of culinary vegetables, will in like manner be distributed. With the exception of two small portions, set apart for curious and select experiments, the whole garden will be open to the different classes of members and their friends, under regulations to be made by the council and garden committee.

It will gratify the Society to learn, that not only have assistance and promise of support been received from kindred establishments, and lovers of horticulture in these kingdoms, but that a correspondence has been opened, and assistance zealously proffered, by similar establishments in various quarters of the globe. With the national establishment, called the "Jardin des Plantes," at Paris, now under the direction of the celebrated Mr. Bosc, — with an horticultural society at New York, and with another similar establishment in New Holland, a correspondence has been already commenced; while many individuals, distinguished for their love of natural science in general, and of horticulture in particular, and who reside permanently in North and South America, and in our various colonies in the East and West Indies, have liberally offered to aid our enquiries, and assist our endeavours to procure such valuable and rare fruits and plants as their respective countries may produce; so that there is reason to hope the Society will obtain early intelligence of whatever discoveries, in relation to horticulture, are made in almost every part of the world.

The Glasgow Horticultural Society held their first competition for the season in June, when prizes for the fruit and vegetables presented were awarded. But few flowers were presented, having been too early in blow, owing to the uncommon warmth of the season. The show of cauliflowers greatly exceeded expectation; some heads measuring thirty-two inches in circumference. Two very fine specimens of seedling geraniums were brought from Woodland's garden, also a very large flower of the tulip-tree, (which seldom blossoms in this country,) brought from Scotston. (*Glasgow Herald.*)

Dumfries and Galloway Horticultural Society. At the meeting, on the 18th of March, a variety of prizes were awarded for forced sea-kail. On the 16th of May thirteen prizes were awarded for flowers and culinary vegetables. On the 27th of May several prizes were awarded for tulips, anemonies, and potatoes. On the 27th of June, among the prizes were one for cauliflower, to Mr. William Chalmers, gardener at Castledykes; the largest weighed three pounds and a half without the leaves, and measured twenty-four inches in circumference. A fine show of irises was presented on this occasion, and what deserves particular notice, an assortment of last year's apples in excellent preservation. They had been kept in a cool room, rather damp, but to which air was admitted in moist weather. They were laid on wooden shelves, and frequently wiped with a cloth. The kinds were, the Ribstone and Fearn's pippin, stoup leadington, fullwood rennet, strawberry, and Tom apple. There were also some specimens of the Tom apple (we hope we have not mistaken the name) which had been kept two years. On the 1st of July a number of prizes were given for pinks, strawberries, and melons; and on the 5th of August for carnations, gooseberries, and cherries. (*Com. by Mr. Grierson.*) On this day was shown a beautiful specimen of the Magnolia fuscata, a shrub indigenous in China, produced in the garden of Mr. Johnston of Carnsalloch. The leaves are similar to those of the bay tree, but the flower is rich beyond description. It is of light cream colour, with the soft appearance of velvet, and has a pleasant fragrance of lemon. This, perhaps, is a solitary instance of this shrub flowering in Scotland, and may be attributed to the extraordinary heat of the summer, aided by the attention of Mr. Porter, the gardener at Carnsalloch, who is, with great reason, proud of having been able to bring his foreign nursling to such perfection. (*Dumfries Journ.*)

The Fourteenth Anniversary Meeting of the Dumfries and Galloway Horticultural Society was held in the Assembly Rooms in Dumfries, on the 31st of August. The Rev. J. Wightman, chaplain, presided. The office-bearers for the ensuing year were chosen, and the Treasurer, Mr. Primrose, produced a statement of his accounts, with a report, which proved highly satisfactory to the meeting.

It was proposed to publish the new Prize List about Christmas, and the members were requested to send in a list to the secretary of such articles as they would recommend for competition, between this and that time.

The meeting recommended to the attention of the members, the Gardener's Magazine, (conducted by Mr. Loudon, and published quarterly in London) as a work likely to be eminently useful both to the amateur and the practical gardener.

The meeting regretted that the important object of the formation of an experimental garden has not been attended to, notwithstanding the recommendation of the general meetings for some years past, and several noblemen and gentlemen having already subscribed towards the expense of it, and others having signified their readiness to contribute to the undertaking, by subscribing for shares at the rate of *5l.* each, as formerly proposed, on the principle of the Caledonian Garden, which is now in a very forward state. In order, therefore, to give full effect to this important object, the meeting appointed a special committee to make such arrangements, and adopt such measures, as to them may seem best calculated to promote the formation of the experimental garden.

Thirty-three prizes were awarded for apples, pears, plums, peaches, nectarines, black grapes, green grapes, pine apples, melons, figs, salad, (?) cauliflower, green peas, carrots, Malta turnips, retarded gooseberries, dahlias, New Zealand spinage, and home-made wine.

Two fine rose plants were produced by R. Ross, from seed which he had received from Teneriffe and the Cape.

After the meeting, the members and friends of the Society sat down to dinner in the Dumfries and Galloway Hotel.

The dessert was most sumptuous; perhaps a finer variety of excellent fruit never graced a table in Scotland. The company enjoyed the pleasures of the evening to a late hour, and parted much delighted with the important object of the meeting. (*Dumfries Jour. Sept. 5.*)

IRELAND.

Horticultural Society of Ireland. On July, 31st, this Society held its show of fruit and flowers, at the Rotunda. The stages erected in the centre of the great room were, we think, rather larger than usual; but they were amply furnished, and in their appearance combined richness of effect with neatness of arrangement. Although the show took place fourteen days earlier than the corresponding one of last year, yet, owing to the continued heat and drought of the season, the flowers exhibited for prizes were not as fresh-looking as on former occasions, and the small fruits were over ripe. The only fruits which had not attained their full ripeness were the green gage plums, from which, in consequence of that circumstance, the premium was withheld. The grapes were extremely fine — both those exhibited for weight and those for flavour. Of the peaches there were a great variety, all very fine and ripe. Some of the nectarines and apricots were extremely large; of the latter there was only exhibited one kind, the Moorpark. The melons were very fine, and there was a great competition in them. Several pine apples were exhibited, all perfectly ripe, and generally large. The judges, however, withheld the premiums, in consequence of the fruit not being cut. The carnations, pinks, and piccotees were of pre-eminent beauty, and the candidates for prizes in these flowers more numerous than, from the unfavourable season, we could have expected. Previous to other shows the skill of the florist has usually been directed to force into blow the flowers on which he rested his claims; but this time it appeared that his utmost exertions were requisite to retard their florescence, and that with all his care he was only able to exhibit a succession, instead of the primary blossoms. It is but a proper tribute to merit, to mention here that Mr. Pennick, gardener to Peter Latouche, Esq. of Bellvue, would have obtained a prize for carnations, but for having sent only four flowers, when the regulations of the Society required six.

Amongst the exotics and ornamental plants with which the stage was decorated, we observed the lily of the valley tree (*Convallaria arborea?*) and the *Nerium Oleander splendens*, fine specimens of which were sent by Mr. Downes, gardener of Thomas Crosthwaite, Esq. of Dollymount. The Norfolk island pine, (*Dombeya excelsa*) and a great variety of egg plants and cockscombs, from Mr. Dunphy, gardener to Austin Cooper, Esq. of Abbeville, attracted much admiration. A Shaddock tree from Mr. Poole, gardener to W. Rutherford, Esq. was, to the generality of visitors, decidedly the most curious and interesting production displayed: it was loaded with fruit, many of which were more than twice the size of a full-grown orange; so that the majority of spectators supposed that they were over-grown oranges. Mr. Lane, gardener to Mrs. Colville, Clontarf, brought a strong, healthy Zante currant vine (*Vitis Ionica,*) with several clusters of grapes nearly ripe, affording a marked and curious contrast to the large bunches of Syrian, Muscat, and Hamburgh grapes which lay on the stage beneath. The vine, to which we allude, is of that species which produces the Zante currants, used here for culinary purposes, and of which, we believe, the first plant grown in the empire was reared from seed by the late Sir Joseph Banks, who strongly recommended the planting of it against the walls of graperies, where he found it thrive uncommonly well.

A letter was received, previous to the show, from Mr. ———, gardener to the Earl of Gosford, accompanied by a flower of the Carolina kidney-bean tree (*Glycine frutescens*), the first which has been produced in Ireland. — The flower resembles much the laburnum, but is of a bright lilac colour.

After the adjudications had been concluded the Society dined together. — (*Irish Farm. Jour.*)

Introducing Trees and Shrubs. In a letter in the Irish Farmer's Journal of June 17th, by G. W. Irvine, Esq. on the subject of hedge-row timber, it is stated that Mr. Mackay, Curator of the Trinity College Botanic Garden, has, within these twenty years, introduced more plants to Ireland than all the other proprietors and cultivators put together. He is stated to have recently introduced some American species of poplar which are expected to prove valuable acquisitions as timber trees.

The *Yucca gloriosa* has flowered with uncommon vigour this season in Lady Ormonde's conservatory at Castlecomer. The plant in question has been under the management of Mr. Reecks, her ladyship's gardener, for the last fifteen years. It is now eighteen feet high; the stem fourteen inches in circumference, and the flower, consisting of some hundreds of large beautiful bell-shaped blossoms, is nearly four feet in perpendicular height. It will probably continue in blossom a fortnight. (*Irish Farm. Jour.*)

The Inistioge Grape. Our readers will probably recollect a statement in all the newspapers last year, of the great success that attended the exertions of Mr. Prendergast, of Inistioge, in the county Kilkenny, in bringing a particular species of grape to the greatest perfection in the open air, without any artificial heat whatever. We are now informed by a correspondent, that these same grape-vines have this year the bunches of grapes uncommonly fine and numerous. But what will appear to our readers the most surprising is, that Mr. P. has several plants of the same sort of grape, each produced from one single bud of the last year's wood, and planted in the ground, in the open air, so late as the first week of June last. These plants have two fine bunches of grapes on each, and the bunches are only separated from the earth in which the plants are growing by a slate, to prevent the fruit being injured by too much moisture. One of these plants Mr. P. dug up, (the remainder are all growing in the open ground at Inistioge,) carefully preserving a ball or lump of earth about its roots, and placed it in a small flower pot, with its two fine bunches of grapes attached thereto. Persons that are curious enough, or who may doubt the practicability of such a thing, can be convinced of the fact by calling in at Mr. Castellio's shop, near Reginald's Tower, where will be seen the grape vine plant in question. (*Waterford Chronicle.*)

Rosslare Embankment. This work has commenced with every prospect of success, and it is expected that by the 1st of August, two hundred acres of the richest ground in the kingdom will be added to the estate of James Boyd, Esq. who is giving daily employment to upwards of one hundred of the poorer class of his tenantry. We wish that other landlords, whose properties are similarly situated, would follow the spirited example of Major Boyd. (*Wexford Herald.*)

Art. III. *Horticultural Society and Garden.*

Horticultural Society, 4th July. The following Matters were exhibited. — Flowers of eighteen varieties of Carnations and Piccotees, from Mr. William Hogg, of Paddington. A Providence Pine Apple, from a plant eighteen months old, from John Allnutt, Esq. F.H.S. Dried fruits of Dimocarpus Longan, and Litchi, from Thomas Beale, Esq. of Macao, in China.

Also from the Garden of the Society. — Plants in flower of Hoya Pottsii and Hoya trinervis, new species, imported from China by the Society. Flowers of Rosa multiflora, of Double Roses, of varieties of Centaurea cyanus, of various Russian Stocks, of varieties of Double Papaver Rhæas and Double Pinks. Five different varieties of Lettuces. Fruits of seventeen varieties of Strawberries, of five varieties of Raspberries, of five varieties of Currants of Holman's Duke Cherries, of five kinds of Figs, of Queen and Green Antigua Pine Apples. Plants bearing ripe fruit in pots of the Kishmish Grape, and the Black Prince Grape. Flowers of Nerium O. splendens, from Mr. Matthew Ryall.

July 18th. The following Silver Medals were presented. — To Captain Robert Welbank, for the original introduction of Glycine sinensis from China, the plant having proved hardy and being highly ornamental. To Captain Richard Rawes, for his continued and successful exertions in the introduction of new ornamental plants from China.

The following Paper was read. — On acclimating plants at Biel in East Lothian. In a letter to the Secretary. By Mr. John Street, gardener to the Hon. Mrs. Hamilton Nesbitt.

The following Matters were exhibited. — A variety of the fruit of the Egg plant in spirits, from Chili, from Alexander Caldcleugh, Esq. F.H.S. Dried fruit of the large oval Litchi, from China, from Captain Richard Rawes, F.H.S. Flowers of eighteen varieties of Carnations and Piccotees, from Mr. William Hogg, of Paddington. Miscellaneous Flowers from Robert Barclay, Esq. F.H.S. Fruit of the Flat Peach of China, from Roger Wilbraham, Esq. F.H.S. A collection of Gooseberries, from Mr. Matthew Stevens, of Hatfield, Middlesex.

Also from the Garden of the Society. — The following plants: Amaryllis Augusta, a hybrid, Amaryllis fulgida, Amaryllis Johnsoni, Amaryllis nova Sp. from St. Catherine's, brought home by Mr. James M'Rae; and Alstromeria nova Sp. from Chili, also brought home by Mr. M'Rae. Flowers of Quisqualis Indica, of Lonicera Japonica, of two varieties of French Marygolds, of several double varieties of Papaver Rhœas, of a new variety of Iberis umbellata, of Coreopsis tinctoria, and of thirty varieties of Piccotees. Fruits of White Figs, of fifty-six varieties of Gooseberries, of white Dutch Currants, of six varieties of Raspberries, of early Anne Peaches, of Green Antigua, Black Antigua, Blood Red, Queen and Trooper's Helmet Pine Apples, the latter a new variety from St. Vincent's. Fruit from plants in pots, of the Royal Muscadine and Verdelho Grapes.

The following Articles were received in the interval since the last meeting on the 4th of July. — A specimen of the Silver Rock Melon, from Mr. William Kerr. A specimen of the small striped Melon, called Cucumis Dudaim, from P. Stephenson, Esq. Fruit of the Xanthochymus pictorius, from Mrs. Beaumont, of Bretton Hall.

Aug. 1st. The following Papers were read. — Notice of some fruits ripened in the garden of the Horticultural Society of London in the season of 1825. Report on new or remarkable Esculent Vegetables, which were cultivated in the garden of the Horticultural Society during the year terminating with the 31st of March, 1826.

The following Matters were exhibited. — Fruit of Cedratier Poncire, from Richard Vachee, Esq. F.H.S. A branch in fruit of the Mespilus Japonica, or Loquat, in spirits, from Robert William St. John, Esq. F.H.S. at Malta. Cucumbers grown in a vinery, trained on wires, from Mr. Robert Blockley, gardener to Charles Mundy, Esq. at Burton, Loughborough. Fruit of the double flowering Plum, from Mr. William Wilkins, C.M.H.S. Moor Park Apricots, from Mr. John George Fuller, F.H.S. A Surinam Melon, and a brown Antigua Pine Apple, from Mr. John Haythorn. A Melon, from Richard Eaton, Esq. F.H.S. Black Hamburgh Grapes, and a Melon, from Mr. John Fisher, gardener to Edward Bouvrie, Esq. at Delapre Abbey, Nottinghamshire.

Also from the Garden of the Society. — Plants of a new shrubby double Pink, from China; of Loasa volubilis, a new plant from Chili; and of Ixora rosea, from China. Flowers of Coreopsis tinctoria, of two varieties of Asclepias, of Lilium superbum, of double Indian Pink, of Lonicera Japonica, and of two varieties of French Marygolds. Six kinds of Gooseberries, fruits of Roman and Turkey Apricots, of Violet hâtive Nectarines,' of Gurmuch Melon, of Royal Muscadine and Verdelho Grapes, of Trooper's Helmet Pine Apple, (a new variety from St. Vincent's), of the old Queen, Brown Sugar Loaf, and of Antigua Pine Apples.

The following Articles were received in the interval since the last meeting on the 18th July, 1826. — Flowers of a new and very beautiful Heath raised from seed, from Thomas Boultbee Parkyns, Esq. F.H.S. Tottenham Park Muscat Grapes, from Mr. Henry Burn, F.H.S. Two unusually large clusters of the Green Chisel Pear, from Mr. Benjamin Bennett. Fruit of a new seedling Peach, called the Wembley Peach, from John Edward Gray, Esq. F.H.S.

Aug. 15th. The following Papers were read. — Facts and Remarks on a species of Potatoe, with tuberous roots, from Peru; and yet different from the common Solanum tuberosum. In a Letter to the Secretary. By Samuel L. Mitchell, Esq. of New York. On the Propagation of the Zamia horrida. In a Letter to the Secretary. By Mr. Francis Faldermann, C.M.H.S. It is found that sections of the crown of the root may be employed for the purpose of increasing this palm, and probably also most others of similar habits. On protecting the Blossoms of Fruit trees against open walls from Rain. In a Letter to the Secretary. By Mr. Charles Harrison, F.H.S. On the Application of Tobacco-water in the destruction of Insects. In a Letter to the Secretary. By Mr. Joseph Harrison. Notice respecting the Strawberries cultivated for the Market in Scotland. By Mr. James Smith, C.M.H.S.

The following Matters were exhibited. — A specimen of netting used at Ripley Castle for the protection of wall fruit, from Mr. John Legge, C.M.H.S., gardener to Sir William Amcotts Ingilby, Bart. F.H.S. Specimens of Carver's Kidney Bean, from Mr. William Wilkins, C.M.H.S. A collection of double Dahlias, and five sorts of Grapes, from John Allnutt, Esq. F.H.S. A collection of double Dahlias, from William Wells, Esq. F.H.S. Fruits of Brown Naples or Italian Figs, of early vineyard Peaches, and of Dutch Codlins, from Mr. George Wain, gardener to William Amory, Esq. Fruits of white Marseilles, Figs, of Grosse Mignonne Peaches, and of Moor Park Apricots, from Mr. Thomas Moffatt, C.M.H.S., gardener to the Viscount Sydney, F.H.S. Fruit of a white fleshed Melon, raised from Dutch seed, from Thomas Charles Higgins, Esq. F.H.S. Fruits of black Hamburgh Grapes, and an Enville Queen Pine Apple, from Mr. Charles Harrison, F.H.S., gardener to Lord Wharncliffe, F.H.S. Specimens of nine sorts of Grapes, from Charles Holford, Esq. F.H.S.

Also from the Garden of the Society. — Plants of a new species of Gloxinia, of Catasetum tridentatum, of Cymbidium xiphiifolium, and of a new species of Mimulus from Chili, brought home by Mr. James M'Rae. Flowers of Coreopsis tinctoria, of Asclepias tuberosa, of varieties of China Asters, of varieties of single and double French Marygolds, and of thirty-seven sorts of double Dahlias. Fruits of white Ischia Figs, of red Magdalen Peaches, of a Daree Persian Melon; of Enville, Ripley, Queen, and Lemon Queen Pine Apples.

The following Articles were received in the interval since the last meeting of the Society on the 1st of August. — Sixteen berries of the roaring Lion Gooseberry, all gathered from one branch. The aggregate weight of which was, one pound fifteen drachms, averaging nineteen pennyweights each berry, from Mr. John Fardow, of Woodstock. Specimens of a Bigarreau Cherry, differing from the common Bigarreau, from William Philip Honywood, Esq. M.P. F.H.S. A branch and fruit of the white Dutch Currant, the bunches and berries very large, from John Dawson Downes, Esq. F.H.S. A Hybrid Melon, raised between the Egyptian green fleshed and a red fleshed variety, from Captain Peter Rainier, R.N. F.H.S. A handsome red fleshed Melon, grown on a plant trained upon a rafter like a vine, specimens of an early perfumed Pear, specimens of the early Bergamotte Pear, and specimens of the Spring Grove Codlin, from Mr. John Haythorn, gardener to Lord Middleton, F.H.S. Specimens of a Plum, which is believed to be the Imperial Violet, from Mr. Whitley, of Fulham. A handsome Fruit of the Otaheite Pine Apple, from Mr. William M'Murtrie, C.M.H.S. gardener to the Viscount Anson, F.H.S.

The plan of the Arboretum, promised in our last Number, want of room obliges us to defer. The garden has presented nothing of particular interest this summer, the blossoms on most of the fruit trees having been destroyed by the frosts of May, and the strawberries and gooseberries having suffered severely from the drought. The roses flowered freely; the dahlias are now in bloom, and there will be a fine show of chrysanthemums in the course of next month.

ART. IV. *Linnean Society.*

June 6. There was read a paper by the Secretary, J. E. Bicheno, Esq. on Methods and Systems of Natural History, wherein the author endeavoured to shew the different uses to which they should respectively be applied. The chief object of the artificial system, he insisted, was to analyse; that of the natural system to synthesise. The business of the one is to enable us to ascertain particulars; and of the other, to combine those particulars, so as to assist the mind to reason generally. Systematists in general, he contended, have confounded these two distinct objects, and have attempted to employ their natural system equally with a view to determine species as to combine them; while their chief object should have been to find resemblances and common characters. The state of science seems to require that the work of combination should be more studied, and that, instead of breaking down the productions of nature into the smallest particulars, we should act more philosophically if we endeavoured to discover the common characters of her groups and to unite species, and thus furnish the ordinary reader with materials of knowledge, relieve his memory, and abridge his labour. This seems to be the more necessary in the present day, when the number of birds amounts to 5000, of insects to 100,000, and of flowering plants to 50,000. (*Taylor's Phil. Mag. July.*)

To the young botanist Mr. Bicheno's paper offers some valuable hints. Too much time may be spent in examining into nice and accidental distinctions between species and varieties, which, though useful to a certain extent, by exercising and quickening the faculties, (*Gardener's Magazine*, 418.) might be more profitably employed in comparing the general appearance and examining the essential character of the groups, or masses (See *Lindley in Phil. Mag. July*,) which compose the vegetable kingdom. For this purpose, such *systems* as we have recommended to be formed in every pleasure-ground *E. of G.* § 6126. and *G. M.* 435.) would be of the greatest utility, and, by a few hours' examination, give every description of observers a more complete and instructive idea of the whole vegetable world, than the study of merely such plants as came accidentally in the way, would do in a life-time. Mr. Bicheno's excellent paper is no small addition to the arguments in favour both of studying natural systems in books, and planting them in gardens. — *Cond.*

ART. V. *Covent Garden Market.*

	July 24.	Aug. 21.	Sept. 4.
Cabbage	1s. 0d. to 2s. 6d. per dozen heads	0s. 9d. to 1s. 9d.	....
Cauliflower ...	1s. 0d. to 5s. 0d. per dozen heads	1s. 6d. to 3s. 6d.	....
Brocoli.........	0s. 6d. to 4s. 6d. per bundle	....	1s. 6d. to 2s. 3d.
Pease	....	....	3s. 6d. to 5s. per half sieve
Beans	0s. 8d. to 1s. 6d. per half sieve	....	....
Kidney beans.	2s. 0d. .... per half sieve	2s. 0d.	2s 0d.
New Potatoes	6s. to 15s. per cwt. about 3s. to 7s. 6d. per imperial bushel	5s. 0d to 20s. about 2s. 6d. to 6s. &c.	3s. 0d. to 8s. 0d. about 1s. 6d. to 4s. &c.
Turnips	2s. 6d. to 5s. 0d. per doz. bunches	1s. 9d. to 5s. 0d.	1s. 6d. to 4s. 0d.
Carrots.........	5s. 0d. to 15s. 0d per doz. bunches	3s. 0d. to 6s. 0d.	2s. 6d. to 6s. 0d.
Radishes	1s. 6d. to 2s. 6d. per doz. hands	....	1s. 0d. to 2s. 0d.
Spinage	0s. 6d. to 1s. 6d. per half sieve	1s. 0d. to 2s. 0d.	1s. 0d. to 2s. 0d.
Onions.........	2s. 0d. to 8s. 0d. per doz. bunches	2s. 0d. to 6s. 0d.	2s. 0d. to 5s. 0d.
Asparagus	1s. 6d. to 3s. 0d. per bundle	....	....
Lettuces (cos)	1s. 0d. to 2s. 0d. per score	0s. 6d. to 1s. 0d.	0s. 6d. to 1s 0d.
Cucumbers ...	1s. 0d. to 4s. 0d. per dozen	0s. 4d. to 2s 0d.	0s. 4d. to 2s. 0d.
Cucumbers for pickling	1s. to 2s. per 100	for pickling, 6d. to 1s.	for pickling, 4d. to 8d.
Grapes.........	....	....	4s. to 7s. per dozen lbs.
Peaches	....	1s. to 2s. 6d. per punnet.	1s. 0d. to 2s. 0d.
Cherries	2s. 0d. to 6s. 0d. per dozen lbs.	6s. 0d. to 12s.	....
Apples	2s. 6d. to 5s. 0d. per half sieve	2s. 0d. to 4s. 0d.	1s. 6d. to 2s. 6d.
Pears	3s. 0d. to 6s. 0d. per half sieve	2s. 0d. to 4s. 0d.	1s. 6d. to 7s. 0d.
Plums	2s. 0d. to 3s. 6d. per half sieve	1s. 0d. to 2s. 6d.	1s. 0d. to 1s. 6d.
Gooseberries .	1s. 6d. to 3s. 0d. per half sieve	....	....
Currants	1s. 6d. to 4s. 0d. per half sieve	1s. 6d. to 3s. 6d.	1s. 0d. to 2s. 3d.
Raspberries ...	0s. 9d. to 1s. 0d. per pottle	....	....
Elderberries...	....	....	3s. 0d. per bushelbasket
Walnuts, green	8s. 0d. to 6s. 0d. per half sieve	1s. 9d. to 3s. 6d.	....
Filberts	....	5s. to 9s. per dozen lbs.	5s. 0d. to 9s. 0d.
Mulberries ...	0s. 6d. to 1s. 0d. per pottle	0s. 6d. to 1s. 0d.	0s. 6d. to 1s. 0d.
Oranges	4s. 0d. to 12s. 0d. per 100	5s. 0d. to 15s.	5s. 0d. to 15s.
Lemons	8s. 0d. to 10s. 0d. per 100	5s. 0d. to 18s.	5s. 0d. to 18s.
Apricots	1s. 6d. to 3s. 0d. per punnet	0s. 9d. to 1s. 6d.	0s. 9d. to 1s. 6d.
Melons	3s. 0d. to 5s. 0d. per lb.	2s. 0d. to 3s. 0d.	2s. 0d. to 3s. 0d.
Pine Apples ..	4s. 0d. to 8s. 0d. per lb.	3s. 0d. to 6s. 0d.	3s. 0d. to 6s. 0d.

Art. VI. *Education of Gardeners.*

Emigration. "Sir, — After reading the Second Number of your Magazine, we were quite lifted up with the hopes of being put up to some easy method of obtaining a good education; but we were as much disappointed when we saw your article on the education, or rather the emigration, of gardeners.

"In that article you recommend those gardeners who are too old or incapable of receiving much instruction, to emigrate to America, &c., and engage themselves as common country labourers of all work. It is not likely that an old man is capable of acting upon any part of your recommendation. What, then, is to become of him? Like Adam, he is to be turned out of the garden, and sent to the field; but not for the same offence, certainly: the first was for eating of the fruit of the tree of knowledge, and the last was, because he could eat *no more*.

"Your recommendation might apply very well to those who are disinclined to, or incapable of, much improvement; but even to them you ought to have pointed out the means of emigration, as change of profession would be of no use in a country where so many thousands are out of employment, and would emigrate if it were in their power.

"Next come your hints to young gardeners, where you recommend to them that they 'have no pleasures,' and 'lose no time,' &c. We know of no pleasures that they can part with; as all beyond what they take in the study of their business is out of their reach, and for an obvious reason—*want of money*. It is a very good advice to give to any one, that they lose no time; and we are aware that nothing valuable can be obtained without perseverance: but we were very much disappointed in not seeing you follow up your promise, to shew us the best way to work out our education. "A Middle-aged Gardener."

It is evident that our correspondent does not belong to the class who ought either to emigrate or change their profession. But as he writes no doubt in behalf of our younger brethren, we thank him for his opinion, and shall fulfil our promise by degrees. In the mean time he will find some hints for the employment of their winter evenings in our Encyclopædia (p. 1138, 2d ed.), and some books, worth purchasing for them, in our next Number.—*Cond.*

Self-Education. "I perfectly agree with you on the importance of self-education of gardeners, and for your fatherly advice on this head accept my best thanks; and I think every young gardener must hold himself indebted to you for it. I somewhat differ with you in opinion respecting transformation and emigration of gardeners; the first meets my fixed opinion, but the latter, I think, will not answer so well. I consider, that a man who has got a head fit to emigrate with, is fit to remain at home; if he has nothing but hard labour to look forward to, he will be happier under it in his native land. I think it is necessary for an emigrant to have either a full head or a full purse.

"The observations on the self-education of gardeners require to be carried to a greater extent. In the first place, their wages will not afford them books, and, secondly, they are at a loss to know what books will come in cheapest and most instructive. As a remedy for the first, I have sometimes thought of gardeners forming clubs or societies for purchasing books; and should feel very much gratified if some of your numerous correspondents would suggest a plan for it, as I think it would be very beneficial could it be accomplished. I beg the favour of some of your more learned correspondents, or yourself (as I think no one more able), to inform us what books a young gardener's library ought to contain for his required education; that is, such as come in for the least money, and contain the most information; where they are to be got, and what their prices are.

"I am, Sir, yours, &c.

"Sensitiva."

We have prepared such a list as our correspondent asks for, but find we have not room for it in this Number. In the mean time we invite our readers to assist us with some ideas on the subject. What book is to be got equivalent, in point of comprehensiveness, to Macgregor's Mathematics, a school-book in general use in Edinburgh about twenty-five years ago, but now out of print?—*Cond.*

Art. VII.—*Answers to Queries.*

Hybrid Currants.—"Sir,—In reply to the query of 'Ribes,' in the Second Number of your excellent Magazine, *viz.* 'If any hybrids have been originated between the black and red currant? &c.' I beg leave to state for his information, that in the year 1822, I impregnated a blossom of a white currant, with the pollen of a black currant. The berry contained only one seed, which produced a healthy, vigorous tree; more like in its habit to a black currant than to a white one; but the leaves without the scent belonging to the black currant; and the blossoms in regular racemes, like the white currant. In 1825, this plant blossomed, but not one blossom set. I did not see it for two months after it was in blossom, and *then* the flower stalks were hanging upon it, but not the slightest vestige of a currant. *This* spring I was again absent at the time the plant was in flower, and did not see it for a month afterwards; there was still, at that time, a very fine crop of stalks, but not a currant to be found. If I am at home next spring, I will endeavour to ascertain what portion of the inflorescence is defective.

"*London, Great Alie Street, No.* 22.
August 16, 1826."

"I am, Sir, &c.
"Robert Lachlan."

Black Insect which infests Cherry Trees. — "Sir, observing in the last Number of your Magazine, the enquiry of your correspondent, W. B. B., if there is any remedy for the small black insect which infests his cherry trees, I beg leave to state the method which I have practised with success. In winter, or early in spring, after unnailing the trees, I wash the wall with a mixture of tobacco-water and soft soap, forcing it into the nail-holes with a syringe, or the garden engine, as I find the little enemy chooses those places for his winter quarters, as may be seen in a mild, dull morning in spring; when great numbers of them are observed leaving their lurking-places, and strolling about in quest of the yet unexpanded leaf. I am careful, also, after the trees are pruned, to wash every part of the tree with the liquor; *(our peach, and nectarine, as well as our cherry trees, were very much infected:)* and never to use the old shreds. I never found the least appearance of them on trees thus used; although others, within a short distance of them on the same wall, were nearly destroyed. I ought to have observed, that the trees thus served, were, the preceding season, in a wretched state. Allow me, also, to state, that on trees much infected, there are always great numbers of the little winged insects known here by the name of lady-fly; but whether they are instrumental in producing them, or, like the ant, feed on their larvæ, I have not yet been able to determine.

"*New mode of grafting the Vine.* — Before I conclude, allow me to state a method of grafting the vine, which, as far as I know, is not generally known. The stock and graft must be both shoots of the present year. I consider the best time to perform the operation, to be when the shoots have advanced about two or three feet. The stock is cut as for common whip-grafting, within a short distance of last year's wood; and the graft is prepared as for inarching, leaving about two inches at the lower end of it entire, to be placed in a bottle of water suspended from the trellis. They are then tied and clayed in the usual manner. Care must be taken to fill up the bottle every day. If the operation is performed judiciously, they will readily unite. I have also budded the vine in spring, with complete success. If you think the above, or any part of it, worthy your notice, you may make what use of it you think fit. I am, Sir,

"Your obedient humble servant,

"*Near Worcester, July* 18."

"S. L."

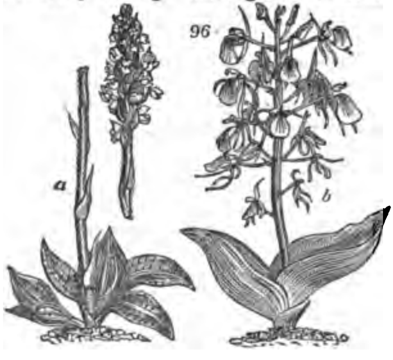
Orchideous Plants are removed with difficulty from their native localities to the garden, and when brought there, retained in a state of cultivation with greater difficulty than most others; but they are a most elegant and interesting order of plants, and great favourites with botanists: and we are sure our readers will join with us in thanking Mr. Stock for the valuable information which he has elicited by his query. We insert the letters in the order in which we received them.

" Sir, *the best mode of preserving the bee Orchis, (Ophrys apifera), and the fly Orchis (O. muscifera),* is as follows. They should be removed with a large quantity of mould attached to their roots. They delight in a dry situation. I have had them flower freely in brick rubbish. All other sorts that I know of do best in a shady situation. I am, Sir, &c.

" W. Hirst,

" *Cheshunt, Herts. July* 24, 1826." " Gardener to Jos. Batho, Esq."

" Sir. — In compliance with the request of your correspondent, Mr. Daniel Stock, respecting the bee Orchis, &c., in No III. p. 358, of your excellent Magazine, I send you the following account of the method of cultivating some of the orchideous plants, that I have tried with perfect success in the nursery of my employers, Messrs. C. and J. Young. In the month of April, I remove, with a moderate portion of earth, from their native habitation, the following interesting and peculiarly elegant species,—Orchis pyramidalis; Gymnadenia conopsea; Platanthera bifolia [Lindl. in Don. Cat. ed. 11.] (butterfly); Aceras anthropophora (green man); Herminium monorchis (musk); Ophrys muscifera (fly); O. apifera (bee); and Epipactis pallens. I plant them on a sloping bank, composed of turfy loam and chalk, in an eastern exposure. The plants thus treated, flower considerably stronger, and remain a longer time in bloom than those at Box Hill, from whence they were obtained in 1824. This season they are also ripening their seeds in abundance, and I expect to have the bank covered with seedling plants the ensuing spring. I have no doubt but the remaining species that are fond of a cretaceous soil, such as Orchis hircina; O. Smithii, [Sweet in Obs. B. F. Gard. 163.] &c.; would succeed equally well with similar treatment. The common species, O. latifolia, &c., including a perfectly white variety of O. morio, excepting the green lines of the perianthium, and which may be named O. morio, var. alba, found in a meadow near Epsom, I remove as above, and I plant them in a mixture of turfy loam and peat, in a moist, shady situation; the success attending them has been precisely the same as with the preceding. Having thus endeavoured to coincide with the wishes of your correspondent, and being desirous of making a complete collection of indigenous orchideæ, I should feel much obliged to him, or to any of your correspondents, who could furnish me with the species not mentioned above as being in my cultivation. The following North American species I cultivate successfully on a bank of sandy loam and peat: Spiranthes cernua; Calopogon pulchellus; Cypripedium spectabile; Liparis liliifolia; Goodyera pubescens. Drawings of the two last, by Mr. J. Nairn, of this nursery, accompany this. (*Fig.* 96). (*a*) Goodyera pubescens; (*b*) Liparis liliifolia.



" I am, Sir, &c.

" George Penny."

" *Epsom Nursery, August* 29, 1826."

We have seen a number of drawings by Mr. Nairn, accurately and beautifully done, considering that he never had any instructions, and only occupies his leisure hours in this way. — *Cond.*

" Sir. — Reading your excellent Magazine early in July, I found (at page 358), a query from Mr. D. Stock, relative to the culture of Orchises; and I respectfully presume to offer you a short account of the treatment to which I have subjected the kinds mentioned by him, and most of the other British orchideæ, with a very satisfactory result. Acting under the direction of my father, I divested them of all their native soil; so that a momentary torpidity ensued; and there was no opposite qualities of earth to absorb nor prevent the regular filter of water. This was done when they were collected from the field, and in full bloom; they were then potted, three to six bulbs in each pot; the pots used were from four to six inches in diameter, and well drained with fragments of limestone about two inches deep in each pot. The earth used was Maiden loam, of various qualities, avoiding those of the most arid and argillaceous quality. These soils were not compounded, but each was used separate, with a view to ascertain which kind suited them best. They were then plunged in coal ashes, about three feet to the north of a wall six feet high, where they remained until October or November, when they were plunged in saw-dust, in a cold frame, with the Cypripediums, and other choice herbaceous plants, taken from the classed ground for winter protection. They were removed from the frame to the former north border situation on the appearance of the leaves and flower stems, early in May, where they flowered in succession, very strong; and some of the kinds by far exceeded those in their natural place of growth; particularly the Ophrys muscifera; O. apifera; O. aranifera; which now (August), have fine healthy pericarps, with a full crop of seed in them. The kinds I have domesticated with so much success, are —

Of Lindley's Eleventh Edition of Donn's Catalogue.	Of Smith's Compendium Floræ Britannicæ.
Orchis pyramidalis	Orchis pyramidalis
——— morio	——— morio
——— mascula	——— mascula
——— latifolia	——— latifolia
——— maculata	——— maculata
Gymnadenia viridis	——— viridis
——— conopsea	——— conopsea
Platanthera bifolia	——— bifolia
Ophrys muscifera	Ophrys muscifera
——— apifera	——— apifera
——— aranifera	——— aranifera
Spiranthes æstivalis	——— spiralis
Listera ovata	Listera ovata
Epipactis latifolia	Epipactis latifolia.

"The only perceptible difference in the plants was, that those in the strongest loam had better colours than those in the light loam. The success appears to arise from adopting partial shade, and avoiding the reflection from the soil of the cultivated flower border; by which means we have grown and increased the Cypripediums with equal success. Four years ago, a weak root of C. spectabile, with only one crown bud, was put under the above kind of treatment, and this year it has thirteen stems, ten of which have bloomed

"I am, Sir, &c.

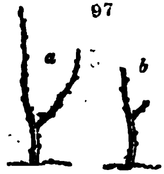
"*Welbeck Gardens, August* 29, 1826." "J. Thomson, Jun."

Training standard Fruit Trees en quenouille. — "Sir: In the second number of your excellent Gardener's Magazine, an allusion is made to a mode of pruning apple and pear trees by a method very little known, so as to diminish their size. It is termed 'en quenouille.' May I request you to give a more detailed account of the method in a future number, so as to enable any common gardener to put it in practice. Permit me to add, that you would be doing great service to the public, were you to give a few general and simple rules on pruning in general, as applicable to different sorts of fruit trees. It appears to me that this might easily and profitably be accomplished by classing the fruit trees, *according to their mode* and *place* of *bearing their fruit.* For example; apples, pears, plums, cherries, bear nearly alike on natural spurs, the *whole length* of the branches; such branches, therefore, should not be shortened, (excepting to produce wood, &c.) On the contrary, peaches, nectarines, apricots, Morello cherries, &c. &c. bear on the last year's wood, and such trees require shortening to produce young bearing wood, &c. I beg your consideration of this subject in your next number.

"I am, &c. G. P."

Training en quenouillé, or distaff fashion, is very little different from what among gardeners is called *spurring in*; that is, shortening all the side shoots of the main or leading shoot, so as their bases may form bearing spurs (*fig.* 98. *g*). Choose a tree that has a leading shoot in an upright direction (*fig.* 97. *a*); having planted it, shorten the side shoot, leaving only two or three buds, and the leading shoot according to its strength (*b*), so that every bud may produce a shoot.

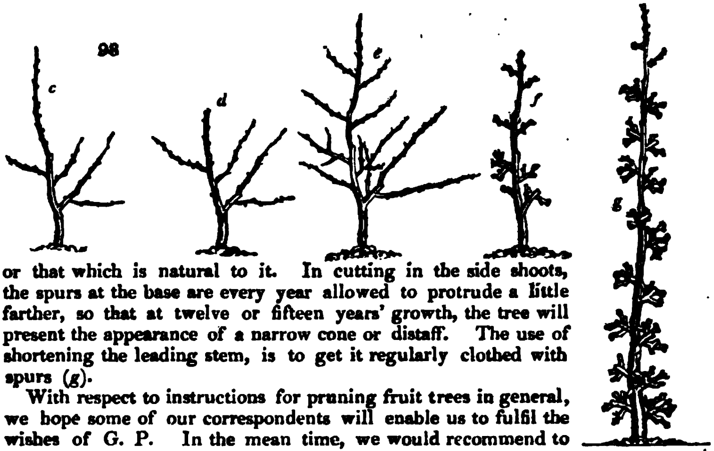
97



The first summer, if the plant is vigorous (*fig.* 98. *c*), the leading shoot may be shortened (*d*), by which operation it will throw out shoots from the young wood (*e*).

At the winter pruning, all the side shoots may be shortened to two or three buds, and the leading shoot to such a number as it is believed will push (*f*). This process is to be repeated every year, till the tree attains the height required, or that which is natural to it. In cutting in the side shoots, the spurs at the base are every year allowed to protrude a little farther, so that at twelve or fifteen years' growth, the tree will present the appearance of a narrow cone or distaff. The use of shortening the leading stem, is to get it regularly clothed with spurs (*g*).

98

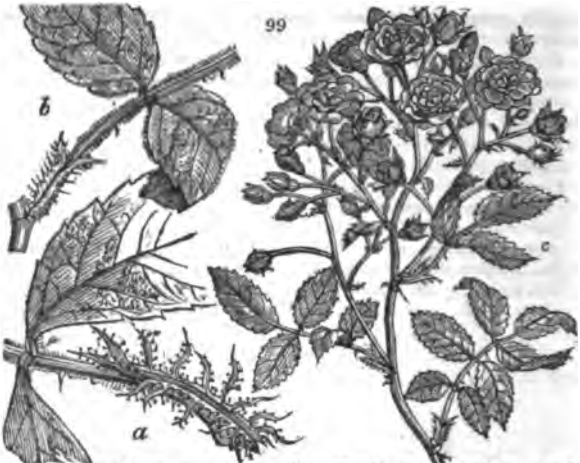


With respect to instructions for pruning fruit trees in general, we hope some of our correspondents will enable us to fulfil the wishes of G. P. In the mean time, we would recommend to him Harrison's Treatise on Fruit Trees, 1 vol. 8vo. — *Cond.*

Rosa Grevillii.—"*Goldworth Nursery near Woking.* — Dear Sir; You will no doubt recollect the shoot I showed you of my Greville rose, which grew eighteen feet in a few weeks. It is now in bloom, and is the most singular curiosity of all the rose tribe that has come under my observation; it grows on an E. by N. aspect, on the gable end of my house, covering above 100 feet square, with more than a hundred trusses of bloom. Some of them have more than fifty buds in a cluster, and the whole will average about thirty in a truss, so that the amount of flower buds is little if any short of 3000. But the most astonishing curiosity is the variety of colours produced on the buds at first opening. White, light blush, deeper blush, light red, darker red, scarlet, and purple — all on the same clusters. As my Greville rose is the only one I have seen in bloom, I should be glad to know through your valuable Gardener's Magazine, whether the above are the characters of the rose generally, or whether mine is a singular or new variety. I am, Dear Sir, &c.

"R. Donald."

A box of flowers sent us by Mr. Donald, were unquestionably those of the true R. multiflora var. Grevillii, which is easily known by the fringed edge of the leaf-stalk, (*fig.* 99. *a*), while those of the common multiflora have much less fringe, and



altogether smaller and less rugose leaves (*b*). The form of the blossom and clusters are pretty much a like in both sorts (*c*).—*Cond.*

"Q. R." is informed that we do not know that there is such a thing manufactured as cast-iron sun-dials, though we think it very desirable that there should be, as few objects are better adapted for ornamenting small flower-gardens. Neither do we know that there are any cast-iron statues, though some of them would be equally valuable in garden scenery. The statue of Apollo, for instance, when contemplated, is calculated to elevate the feelings, and dignify and purify the mind of the beholder, while that of Venus softens and humanises, by its beauty and grace.

Malope trifida, *Wild.* Is the name of the plant, a specimen of which was sent by Julia. "It is a hardy annual belonging to Malvaceæ, a native of Barbary, where it grows in corn fields, and has much the same appearance there as the corn poppy has here, excepting that the colour of the former is rose or lake red, and that of the latter scarlet. We have seen beautiful specimens of it from the garden of Robert Barclay, Esq. F.H.S., of Bury Hill, Surrey; it promises to be one of our most splendid half hardy annuals. "G. D."

Cara of Brazil. — "Sir: The Brazilian esculent root which G. S. enquires after, is, I presume, the *cara* of Rio de Janeiro, and is a variety of *Dioscorea sativa*, the skin of which is white, and tuber somewhat round, but irregular in form. It is certainly superior in flavour to the long-rooted varieties of yam, but is inferior to the potatoe in every respect but size, although it may be preferred by most persons to the potatoes generally grown for the Brazilian market, which are watery and bad tasted; yet in some of the private gardens of the British merchants very good potatoes are cultivated. The name of 'cara' is frequently given to other esculent roots in that country; the principal of which is *Jatropha manihot*, but the proper appellation appears to be '*Ipe*,' simply signifying in the aboriginal language '*a root;*' but even the name of 'Ipe,' as it relates to J. manihot, is more properly applied to the innoxious variety of that species, and is known to the cultivators in being less livid in the colour of the leaves and stems; I never could learn whether this variety was *permanent* or *casual;* I think the latter, but do not assert it positively, as the fruits of all the enquiries which I made on the subject tended to a *mysterious* doubt, which can only be removed by a strict series of observations during culture. The mandioca is always cultivated by cuttings of nine or twelve inches in length, and the 'Ipe' frequently appears in patches of the field, where the 'feitor' (steward or overseer), or the slaves do not recollect planting cuttings of it. If not a permanent variety, *does any peculiarity in the soil destroy or neutralize the noxious qualities of the plant?* The 'Ipe' is eaten in a crude state with perfect safety; when boiled, it eats something like yam; I consider it also inferior to the potatoe, in every respect, excepting size. (I except it in its prepared state as cassada.) It is in general repute, especially among the poorer classes; in the city of S. Paulo, and other towns of that captaincy, it is carried about the streets ready boiled and hot, twice a-day. It may surprise G. S. to be thus told that two such distinct species as those, belonging to Dioscorea and Jatropha, sometimes pass under the same vernacular denominations, but it is true, and may arise from the casual introduction of the indigenous plant of one district to that of another, when a known vulgar name is frequently adapted to the new introduction. From the above observations, I trust you will (at least in this instance) rebut the charge of G. S. of collectors abroad, "not attending to the uses and application of plants." The uses of the plants, as far as known by observation or enquiry, is always marked on the lists of the collections, and are generally forwarded to the cultivators, who are the *really* guilty in swelling catalogues, and to whose remarks *some* botanical *writers* too readily give way, and adopt many hybrids, while they expel legitimate species, and cause a continual confusion among the nicer links in the grand chain of nature, which would otherwise, from modern research, become more complete every day — but generations must pass before the whole can, if ever, be elucidated. "Yours, &c. &c.

"J. B."

ART. VIII. — *Queries and Suggestions.*

"Sir,—If the three underwritten brief suggestions are worthy of your acceptance, or if they will be the means of inducing any person to effect something of the same kind, they are at your service.

"I am, Sir, your constant reader,

"*June*, 1826." "S. FELTON."

"1. Would it be desirable to have *A Catalogue Raisonnée of Books on Horticulture*, English and foreign? The first series of the English catalogue to be brought down to the demise of Henry VIII.; the second to that of Charles II.; the third to that of George II; the fourth to that of George III.

"Nearly fifty years ago I saw, in the libraries at Caen and Rouen, several Anglo-Norman MSS. on the cultivation of cider, and on general agriculture, and very possibly there may be some concerning horticulture. Many libraries on the Continent, no doubt, will throw light on this subject, particularly those of Ghent, Bruges, Brussels, and Holland.

"2. *A curious work might be formed* by giving copies of some of those plates which adorn many old books which contain descriptions of some of our *old English gardens*, belonging to our ancient religious houses, or to the mansions of our old nobility and gentry. Some of these plates are by admirable (foreign) engravers. They might be classed under each county, and brought down to the demise of George II.

"Ray dedicates his *Flora* to Lady Gerrard, of Gerrard's Bromley, in Staffordshire. Plot gives a plate of this mansion, and part of its garden. See also the garden in Vertue's fine whole-length print of Sir P. Sydney. Perhaps there may be somewhere a plate of Sir W. Raleigh's *garden* at Shirburne, in Dorsetshire. We have this account of his house: "A most fyne house, beautified with orchardes, *gardens*, and groves of such varietie and delyghte, that whether you consider the goodnesse of the soyle, the pleasauntnesse of the seate, and other delycacies belonging to it, it is unparalleled by any in these partes."

"What information, on this head, might have been gleaned from the late Sir W. Temple, or from Kent, or from even him who has immortalized Kent, from Mr. Pope himself, whose chief delight was in his own garden, or from Mr. Evelyn, Mr. Gray, Mr. Mason, or from Mr. Bates, the celebrated and ancient horticulturist of High Wickham, who died there some few years ago, at the great age of eighty-nine!

"This work might include many scattered and curious gleanings from our old gardens. I will mention only one: "Talking of hedges," says Mr. Cobbett, in one of his Rural Rides, "reminds me of having seen a box-hedge just as I came out of Petworth, more than twelve feet broad, and about fifteen feet high. I dare say it is several centuries old. I think it is about forty yards long. It is a great curiosity." In some of the villages near Northampton, are some elder trees of singularly unusual size. About the year 1688, *many gardens* would then have furnished one with what is now suggested, if we may judge from what Worlidge then wrote: "Neither is there a noble or pleasant seat in England, but hath its *gardens* for pleasure and delight. So that we may, without vanity, conclude, that a garden of pleasant avenues, walks, fruits, flowers, grots, and other branches springing from it, well composed, is the only complete and permanent inanimate object of delight the world affords."

"3. *A Biography of some early Horticulturalists* would diffuse much curious matter."

We should be much gratified if Mr. Felton would supply some of the above interesting desiderata himself. Though we have not the advantage of his acquaintance, and do not know his address, we can infer from his communication that few are so capable of instructing and entertaining the curious horticulturist. A biography of Mr. Bates, or any anecdotes respecting him, would be very acceptable.—*Cond.*

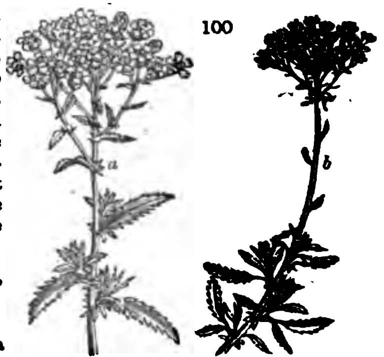
Sweet Mace.—"Sir, I have inclosed a specimen of what is called 'sweet mace,' a herb very much used in this part of Nottinghamshire; it appears to me to be a species of achillea, perhaps the ageratum: I am induced to send it you because it appears to me to have escaped your notice in the Encyclopædia of Gardening, and I do not find it noticed by its English name either in 'Domestic Cookery,' or the 'Cook's Oracle.'

"I am, &c.

"T. C. Huddlestone."

"*Newark, Aug.* 2. 1826."

100



The specimen sent was the achillea serrata (*Eng. Bot.* 2531.) (*fig.* 100. *a.*); achillea ageratum (*b*) has smaller and more finely cut leaves, and the flowers are of a deep yellow. (I. D. C. S.)

Insects on Wall-fruit Trees. "*Suburbs of York, July* 20. 1826.—Dear Sir: It appears to me from the inquiries which I have lately made, that an effectual method to destroy insects on wall-fruit trees is very little, if at all, known to the gardeners employed in this part of the country; and if you will be so obliging as to insert in your next "Gardener's Magazine" the most practical and efficacious remedy for attaining this object, you will confer a favour, not only on myself, but on several individuals in this neighbourhood.

"About fourteen years ago a nectarine tree was planted against a brick wall in a south aspect; it is now from twenty-five to thirty feet high, and has been regularly pruned. In consequence of its having invariably been attacked every spring soon after the buds burst out into leaf, with thousands of green flies, which generally make their appearance on the commencement of northerly or easterly winds, the tree has *never* had a ripe crop of fruit upon it since planted. These insects continue upon the leaves and shoots until the former turn yellow, shrivel up, and drop off, soon after which, the young fruit, of which there has almost every year been plenty, likewise drop off. About Midsummer, on the rising of the second sap, the leaves again shoot forth, which gratifies the eye, but adieu to the fruit. Several remedies have been tried, but none have hitherto had the desired effect. In this extremity, therefore, I have taken the liberty to make the above request, and shall be happy if you will take the trouble to enlighten,

"Dear Sir, your most obedient Servant,

"Ignoramus."

Lime-water, or water alone, thrown on the trees night and morning by Read's syringe, or the garden-engine, will effectually subdue the insects in question, and most others. The operation should be begun on their first appearance, continued till they disappear, and resumed on their re-appearance. Tobacco-water will effect the same object with less labour, but at considerably greater expence of material. The gardener who can command lime-water and tobacco-water, may destroy every insect and reptile, from the aphis to worms, snails, and frogs.—*Cond.*

Peaches and Nectarines on the same Tree. Mr. Richard Willis, gardener to John Harris, Esq., at Radford, Devonshire, has sent us two peaches and a nectarine, respecting which he says: "I now send you two peaches and one nectarine, which were grown on one branch, ten inches from each other. The tree was a maiden plant, and said to be the Chancellor peach, when I planted it in 1815. It has been ever since solely pruned and trained by me. In 1824 there was a fine crop of peaches on this tree; and as I was thinning the fruit in the usual way, I discovered one branch with twelve nectarines on it, which I was much surprised to see, knowing as I did that I had no man on the ground that could insert a bud. In 1825 there were twenty-six nectarines on the same branch. I gathered five out of six of them that were left to ripen, and they were as large as the peaches. This season there were thirty-six nectarines on the same branch; I left four or five of them, with eighteen peaches, all on the same branch. This tree is planted against a wall, having a south aspect: it spreads seventeen or eighteen feet, and is about twelve feet high. The number of fruit on this tree left to ripen this year is upwards of two hundred, and they are very fine. The plant, as I have said, came to me by the name of the Chancellor peach. I do not believe it to be that sort. If any of your readers can say what is the cause of this tree producing two sorts of fruit, I shall feel much obliged by the information. "I am, Sir, &c.

"*Radford, Sept.* 4. 1826." "Richard Willis."

The peaches were large, handsome, and high coloured; the nectarine was smaller, and as dark as the Elruge: both peaches and also the nectarine are cling-stones, and high flavoured. One of the peaches is almost as smooth on one side as the nectarine. We have suggested to Mr. Willis to insert some buds from this branch in any other peach-tree, or in a plum-tree, and observe whether the progeny sport as much as the parent. — *Cond.*

Description of an unknown Plum.—"Age fifty-four years, in health, good bearer, on strong soil, against an east brick wall; ripens in August, annual shoots small, leaves not larger than the sloe; fruit and stalk in shape and size like a green gage. After the fruit has stoned, it passes from green to orange colour, thence into orange and purple streaked. It ultimately matures into the deep colour of the Fotheringham. Superior to the Orleans, inferior in dessert to the Perdrigon. Flesh leaves the stone. Excellent for sweetmeats, though inferior to the Sherborn plum, and less acid when preserved. Cuttings shall be sent to you, if you deem the fruit worth cultivating. Its name is not known, nor can I find any description of it in the various fruit-catalogues, old or new. "W. R. G."

"*West Riding, Yorkshire.*"

We shall be happy to receive cuttings of the plum described, which we shall graft and distribute. The other excellent communications of W. R. G. shall appear in due course. — *Cond.*

Alpine Strawberry and Red Spider.—"Permit me to call your attention, and, through your publication, that of gardeners generally, to the improvement of the alpine strawberry. It is probable that its flavour would be increased in proportion to its size, and yet retain its fruitfulness. If it could acquire the size and flavour of the old Caroline (*the Pine*), it would then be, of all acquisitions, the very greatest that our gardens could receive. Nor do I despair of reaching this. Only consider what has been done with the gooseberry. — What is the most efficacious mode of destroying the red spider? "R. S."

"*July* 17. 1826."

Buda Kale.—R. L. would be obliged if any gentleman would have the kindness to state, for the information of R. L. and several of his friends, readers of the Gardener's Magazine, what is the best method of blanching the buda kale: R. L. having tried *many* methods, but in every case by the time the kale was blanched it was rotten.

Merveille de la Nature Pear. — A valued correspondent (B. W.) would be much obliged to any reader of the Gardener's Magazine, who could inform him where he could get a cutting or plant of this pear. — *July* 20.

Plants in Pots and in Town Gardens, &c.—"Sir,—Permit one, who has no title to enter on a correspondence with the Gardener's Magazine, beyond what the pleasure its perusal affords him may give, to beg the favour of information on the following points:

"First, Some very full and very *simple* directions for the use of those lovers of plants in pots who may not have the advantage of a greenhouse.

"Secondly, A list of such trees, shrubs, and flowers, as are most fitted for a London garden, and least affected by its blacks.

"Thirdly, Some hints and suggestions on preventing the ravages of the common green caterpillar in mignionette.

"And, lastly, Instructions to all unacquainted with practical botany and gardening, how to cut flowers, &c.; much mischief being frequently done by their being improperly gathered. "I am, Sir, your well-wisher,

"*September* 8." "R. A. M."

Till some correspondent replies to R. A. M. he may look into Le Jardinier des Fenêtres, des Appartemens, et des petits Jardins. Paris, Audot, 18mo. 1823.—*Cond.*

Art. IX. *Obituary.*

Died at Middleton, near Arbroath, on Monday, the 3d of July, Walter Gandy, gardener to —— Gardin, Esq., at the advanced age of 97. He has served in the same family for the last 70 years, 20 of which he has been unable to work, except for his own amusement; notwithstanding which, his hospitable master allowed him the same wages, with a house, cow, meal, and every other perquisite that he enjoyed when in active employment.—*Dundee Advertiser.*

Correction.

For *agronomical*, in page 285, read *agricultural*; and for *agronome* and *agronomes*, which occur in two or three places in this volume, read *farmer* and *farmers*. We wish to banish the word bailiff from the language of agriculture, and first thought of substituting the French appellation agronome; but, upon second thoughts, we think the word farmer will do better. A gentleman's farmer may always be distinguished from a rent-paying or commercial farmer, as a gentleman's gardener is distinguished from a commercial gardener.

PART IV.

ADVERTISEMENTS CONNECTED WITH GARDENING AND RURAL AFFAIRS.

AS GARDENER, or GARDENER and BAILIFF, or KEEPER, a Situation is wanted for a married Man, Forty Years of Age, without Incumbrance. He has a general knowledge of his business in the above branches, having filled them all, and can be well recommended. Letters, post paid, addressed to G. S. T. at C. and J. Young's Nursery, Epsom, Surrey, will meet immediate attention.

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J. B. not having appointed any Agent in Europe for the disposal of his future Collections, informs those Persons who may wish to favour him with their commands, and who have no correspondents at the Cape, that Orders transmitted through the means of Visitors *in transitu*, or the Captains of the regular Cape traders, will be punctually attended to; and the seeds, bulbs, and plants, packed agreeably to their several natures, will be forwarded in the proper seasons only, and, when requisite, written instructions will be given for the safer conveyance of the specimens in question. Having been pretty successful hitherto in the transmission of seeds from the southern hemisphere, he sees no plausible objections to seeds being still allowed to cross the equator, with every hope of ultimate success, and especially those of some fine species which have hitherto failed in consequence of the extinction or weakening of the vegetative powers in seeds. With such, a course of experiments, founded on practical observations, will be made; and, should they prove successful, they will hereafter be made public.

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INDEX.

A. C, query of, 359; answer, 378.
A Constant Reader, on diseased elm trees, 378.
query of, 96; answer, 229.
A Friend to Discussion, 393.
Facts, remarks by, 391.
A. S., query respecting gold & silver fish, 229.
A Subscriber, query of, and answer, 229.
A Young Gardener, query of, and answer, 229.
Acclimating plants, remarks on, 214.
Acorn, used to fatten sheep in Germany, 200.
African sheep in the United States, 86.
Agave Americana, uses of in Mexico, 206.
Agricultural and Botan. Soc. of Ghent, 201.
Company of Australasia, 86.
establishment in France, 445.
implements (*advertised*), 230.
schools of Switzerland, 82.
Society of Calcutta, 207.
Moscow, 443.
Stockholm, 83.
Wurtemburg, 441.
Agriculture connected with garden culture, 7.
in the neighbourhood of Warsaw, 4.
of the State of New York, memoirs of, remarks on, 443.
of the island of Corsica, 79.
Allen, Mr. T., F.H.S., on cucumbers, 416.
Amager, an island of gardens near Copenhagen, 272.
Amaryllis, on a hybrid produced between A. vittata and A. Regina vittata, by J. R. Gowen, Esq. F.H.S. 70.
Amateur, on the Granadilla, 15.
, query of, 229; answer, 356.
American aloe in flower at Chiswick, 89.
fine specimen of, at Kitley, 335.
blight, (Aphis lanigera, some account of an attempt to arrest the ravages of, on fruit trees, by T. C. Huddlestone, Esq. F.H.S., 388.
American botanic gardens, 52.
botanists, 53.
cranberry and oak leaves, in Germany, 80.
Anderson, Mr. John, F.H.S., gardener to the Earl of Essex, celery grown in trenches by him, 170; recipe for tomata sauce, 353.
Anderson, Mr. William, F.L.S. H.S., curator of the botanic garden, Chelsea, on packing and preserving seeds, 210; remarks, including the results of some experiments on budding the peach, &c. on almond stocks, 384.
Angler's book, (*advertised*), 233.
Annales Agricoles de Roville, par Mathieu de Dombasle, account of, 196.
Annfield, the villa of Dr. Percival, 261.
Anona squamosa, ripened by Earl Powis, 73.
Ants, how destroyed in France, 80.
Aphis lanigera, or American blight, an attempt to arrest the ravages of, on fruit trees, by T. C. Huddlestone, Esq. F.H.S., 388.
Apple, Bere court-pippin, 73.
Calville rouge de Micoud, 429.
Claygate pearmain, 73.
Cray pippin, *ib.*
Jubilee pippin, 72.
Esopus Spitzenberg, 73.
stony royd pippin, 73.
mammoth, 351.
Pomme de deux ans, 94.
golden knob, old maid, or old lady, 269.
Apples, how marked with the impression of a leaf in Persia, 332.
how to retain good varieties of in the country, 223.
on a mode of keeping through the winter, by Mr. Robert Donald, 268.
Apples, remarkable variety at St. Valery in Normandy, some account of, 198.
Arachis hypogæa, on its culture, by Mr. John Newman, 66.
Archibald, Mr. J., C.M.H.S. On Dalhousie castle and gardens, and the botany of the neighbourhood, 251.
Architectural improvement, 353.
Architecture, half a dozen hints on, (*advertised*), 97. 361.
Arniston, botany of, 256.
Arracacha, description and account of, 332.
Asparagus, on the cultivation of, during the winter, by Mr. P. Lindegaard, C.M.H.S. 173.
Astragalus Bœticus as a substitute for coffee, 82; remarks on, 440.
Atkinson's agriculture of New South Wales, remarks on, 432.
Atkinson, W., Esq. F.H.S., his directions for the management of hot-house fire-places, &c. 167; his Grove End scarlet strawberry, 72.
Atti del Real Instituto d'Incorragiamento, &c., account of, 196.
Aubergine, the brinjall, a variety of the egg-plant, Solanum melongena, 307.
Australian Agricultural Company, 86.
Averruncator, echénillier, Fr., its use in the Netherlands, 325.
Baical lake, great botanical interest of, 52.
Bailey, Mr. W., F.H.S. civil engineer, London, Traité de l'Emploi de la Vapeur pour les Serres Chaudes, &c. account of, 197.
Bailly, M. C., abridgment of his pamphlet on raising fruit trees, 80.
Baines, E. M., Esq. on an anomalous appearance in Lilium, 273.
Balfour, Mr. W., on reverse grafting, 71. 274.
Banks, Sir Joseph, P.R.S. &c. &c, 53, 54.
Banyan tree, on the treatment of, by Captain Peter Rainier, F.H.S., 67.
Barnet, Mr. James, his description of the different varieties of strawberries cultivated in the garden of the Horticultural Society of London, 420.
Bates, Mr. William, a remarkably large gooseberry plant growing in his garden at Duffield, near Derby, 171.
Bavaria, agriculture of, 445.
Baydon's art of valuing rents and tillages, (*advertised*), 233.
Bayswater garden, Comte de Vandes,` notice respecting, 349.
Beattie, Mr. William, C.M.H.S., his description of a vinery, and mode of training practised in it, 172.
Bees, on the winter management of, communicated by Miss Ann Dingwall, 153.
quality of their honey and wax relatively to the flowers they are selected from, 323.
Begbie, Mr., of the botanic garden, Kew, 352.
Belgrave nursery, notice respecting, 221.
Berberis fascicularis, 290.
Bicheno, James Ebenezer, Esq. F.L.S., remarks by, on methods and systems of natural history, 461.
Biographies wanted for the Gard. Mag. 95.
Biography of some early horticulturists suggested, 470.
Bishop, Mr. David, his history, description, and mode of treatment of Bishop's early dwarf pea, 126.
Blakie's essay on the conversion of arable land into pasture, (*advertised*), *ib.*
essay on the management of farm-yard manure, (*advertised*), 233.
treatise on hedges and hedge-row timber, (*advertised*), 232.

Blakie's treatise on mildew, wheat, lime, &c. (*advertised*), 232.
treatise on the smut in wheat, (*advertised*), *ib.*
Bland, Michael, Esq. his jubilee pippin, 72.
Blenheim, its lake and poplars, 17.
Bletia Tankervillæ, experimental observations on the culture of, by Mr. Otto, 188.
Bliss, Mr. G., his fruit-grower's instructor, (*advertised*), 98.
Bonde, Count of, his improvements near Stockholm, 446.
Bones, as manure in Denmark, 396.
, as manure in France, 323.
, for manure where ground, and how sold, with other particulars, 333; how to collect for vine borders, 334.
Book-keeping, method of, by A. Trotter, Esq. 192.
Books advertised for January 1826, 97; for April, 230; for July, 361; for October, 443.
Books on Gardening, Agriculture, Botany, Domestic Economy, &c., published since January 1824, including new editions, &c., 74.
Books: America, 1824—5, 78; January 1826, 78; April, 197; October, 443
Britain, 1824—5, 74; January 1826, 74; April, 192; July, 312; October, 431.
France, 1824—5, 76; January 1826, 76; April, 195; July, 318; October, 437.
Germany, 1824, 77; 1825, 78; January 1826, 77; April, 196; July, 320; October, 440.
Books, Danish and Swedish, 1824, 77; 1825, 78; January 1826, 77; April, 197; July, 322.
Books, Dutch and Flemish, 1824, 77; 1825, 78; January 1826, 77; April, 197; October, 442.
Books, Italian, 1824, 77; 1825, 78; January 1826, 77; April, 196; July, 326.
Russian and Polish, 1824, 77; 1825, 78; January 1826, 77; October, 442.
Spanish and Portuguese, 1824, 77; 1825, 78; January 1826, 77; April, 196; July, 322.
Books preparing for publication, 443.
reviewed for January 1826, 47; for April, 155; for July, 287; for October, 415.
Borage as manure, 200.
Bornholz's translation of Egger on the Culture of the Truffle, 320.
Botanical Cabinet, review of, 47. 60.
Cultivator (*advertised*), 98.
Lectures, popular, delivered at Edinburgh by professor Graham, 220; in Belfast by Dr. Drummond, 340.
Magazine, review of, 47. 89.
Magnifier, for gardeners, 358.
Register, review of, 47. 60, (*advertised*), 98. 362.
Sketches, notice of, 192.
Botanic Garden at Batavia, 52.
at Calcutta, 55.
at Edinburgh, 218.
at the Isle of France, 55.
at Madrid, 237.
at Marylebone, broken up, 89.
at New South Wales, 55. 86.
at Spain, 236.
at St. Petersburgh, 51; described, 89.
at St. Vincent, 55; an account of, by the Rev. L. Guilding, B.A. F.L.S. reviewed, 193.
Botanic Garden at Trinidad, 55.
at Warsaw, 377.
of prince Rasumoffsky, at Moscow, 84.
, or Magazine of hardy Plants, reviewed, 48. 61. (*advertised*), 97.
Botany, conversations on, (*advertised*), 361.
, lectures on, at Edinburgh, by Professor Graham, 220; at Belfast, by Dr. Drummond, 340.
, lectures on the elements of, by Dr. A. Todd Thomson, (*advertised*), 99.
of Constantinople, by the Rev. R. Walsh, L.L.D. & C.M.H.S., 293.
of Dalhousie Castle and Gardens, by Mr. Joseph Archibald, C.M.H.S., 251.
Botany, South African, Mr. Bowie's intentions respecting, (*advertised*), 473.
Bouché, M. P. F., his observations on forcing the Turkish Ranunculus, 186.
Bouché, on the culture of the Torch Thistle, 186.
Boughton Mount, 35.
Bourne, F., Esq., of Tereneure, 262.
Bowers, Mr. John, his description of an Elruge Nectarine tree, in the garden of West Dean House, Sussex, 174.
Bowers, on destroying the Bug and Scale on Pine plants, 308.
Bowie, Mr. James, Botanical Collector at the Cape of Good Hope, his hints for the better cultivation of Cape Heaths, 363; his intentions, (*advertised*), 473.
Boxtree as manure, in France, 323.
Braddick, John, Esq., F.H.S., his Claygate Pearmain Apple, 73.
, on the Beurré Spence, and other Pears, and on the art of keeping Fruit, 144.
Braddick, on the Present de Malines Pear, 33.
, on three new keeping Pears, 249.
Brash, Mr., on the culture and use of the sea or shore Cale (Crambe Maritima), 189.
Brassica, or Cabbage family, on its different species and varieties, by Prof. Decandolle, 63.
Breedon, the Rev. J. S., his Bere Court-pippin Apple, 73.
Breese, Mr. John, grows Pines on boards placed over a pit filled with dung, &c., 308.
Brewing, a practical treatise on, by C. N. Hayman, (*advertised*), 99.
, Mr. Samuel Child's treatise on, (*advertised*), 99.
Brighton Athenæum and Oriental Garden, 89.
Brinjall or Aubergine, a variety of the Egg-plant Solanum Melongena, 307.
British Botanist, (*advertised*), 109.
Entomology, by John Curtis, Esq. F.L.S. &c., remarks on, 317.
Farmer, by Mr. John Finlayson, announced, 99, remarks on, 192.
Flower Garden, reviewed, 47. 61.
Parks and Gardens, remarks on, by M Lenné, royal garden engineer, Potsdam, 308.
British Warblers, &c., by Mr. Robert Sweet, F.L.S., some account of, 193.
Wines, how to manufacture, 93.
Broccoli, to preserve in a growing state, from being injured by the frost, 224.
Brookhouse, J. Esq., Cucumbers grown by him in a dung bed in the front of a peach house, 171.
Brown, Robert, Esq., F.R.S., L.S. &c., 54.
, Mr., gardener at Stowe, 88.
Browns, Messrs., formerly of Perth, 256.
Buchan, Mr. W., F.H.S., on improving the Gardens of Cottages, 275.
Buck, Mr. W., his Elford seedling Grape, 72.
Buda Kale, on blanching and forcing, by John Wedgewood, Esq., 307.
Buda-Kale, query respecting, 472.
Budding in the Netherlands, 83.
Bulbous-rooted Plants, culture, by Mr. Sweet, 31.
Roots, the Rev. W. Herbert's treatise on, (*advertised*), 99.
Bulos, his Traité d'Agriculture et d'Horticulture, noticed, 437.
Burges, Mr. James, his recipe for composing a liquid for effectually destroying Caterpillars, Ants, Worms, and other Insects, 389.
Burn, Mr. Henry, F.H.S., his account of a new seedling Grape, 415.
Burnard, J. P., Esq., on the remuneration of gardeners, 141.
Burton, W. D., Esq., 353.
Bushy Park, near Dublin, the residence of Sir Robert Shaw, bart., 263.
Bulletin des Sciences, Agricoles, et Economiques, remarks on, 320.
Cabbage, on the tree variety, by Mr. P. Day, 307.
, or Brassica family, see Brassica, 63.
Cactus, several species of, grafted on Cactus triqueter, by Mr. John Nairn, 171.
Speciosus, Speciosissimus, and other ornamental succulent Plants, on the treatment of, by Mr. W. J. Shennan, 396.

Caley, Mr. George, 194.
Camellia Britannica, by Messrs. Chandler and Buckingham, some account of, 317.
Japonica, var. Gloriosa, of Mr. Ross, 211.
, new variety, from the garden of T. C. Palmer, Esq., 341.
Oleifera, 87.
, single white-flowered, 325.
Campbell, Mr., of Bayswater Garden, 349.
Canal digging machine in France, 323.
Cape Heaths, hints for the better cultivation of, by Mr. James Bowie, 363.
, List of, which have been in flower in the Tooting Nursery in each month of the year, communicated by Messrs. Rollisson, nurserymen, Tooting, 366.
Cara of Brasil, query respecting, 358; answ. 468.
Carnations and Piccotees, wonderful collection of, by Mr. Hogg, Florist, Paddington, 450.
Carrot, Turnip, and Radish, the method of rearing Seed of in the East Indies, by William Ingledew, Esq., 174.
Cassilis, Earl of, 254, 257.
Castlereagh House, County of Roscommon, described, 94.
Caswell, G., his Esopus Spitzenberg apple, 72.
Catalogue des Végétaux de Pleine Terre, &c. par M. Soulange-Bodin, account of, 186.
Catalogue Raisonnée of Books on Horticulture, suggested, 469
Caterpillars, ants, worms, and other insects, Recipe for composing a liquid for effectually destroying, by Mr. James Burges, 389.
Caterpillars in the Netherlands, 326.
on cabbages, how destroyed in Lithuania, 84.
, remarks on their ravages on the pine forests of Franconia, 321.
Cauliflowers, on a new mode of preserving, by Mr. Charles MacIntosh, 139.
Cedar of Lebanon, grafting of, 199.
, remarks on the effect of, in Landscape, by John Thompson, Esq. 118.
Celery, grown in trenches, by Mr. J. Anderson, F.H.S., gardener to the Earl of Essex, 170.
Cels, M., Nurseryman, Paris, 49.
Chamois Goat, 210.
Chandler and Buckingham, Camellia Britannica, some account of, 317.
Charcoal dust, as a top dressing for onions, and as a cure for the clubbing in cabbages, by Mr. T. Smith, C.M.H.S., 293.
Charlemont, Earl of, 264.
Charlottenlund, a royal seat, Copenhagen, 272.
Charlottenburgh, near Copenhagen, botanic garden of, 272.
Cherries, forcing of, in the 16th century, in France, 323.
, on destroying a black insect, which infests, 464.
, to scare birds from, 454.
Child, Mr. Samuel, his treatise on brewing, (*advertised*), 99.
Chinampas, or floating garden, 448.
Chinese rose, as a stock for the yellow rose, 66.
Chrysanthemums, account and description of five new Chinese, &c. 73.
, in the gardens of the Horticultural Society, 87.
Cinders and coal ashes, effects of, on plants, 294.
Cistineæ, review of, 48. 61. (*advertised*), 98.
Clapton Nursery, notice respecting, 220.
Classification of plants, remarks on, 435.
Cleghorn, James, Esq. Accountant in Edinburgh, conductor of the Farmer's Magazine, his tract on a general provident institution for the benefit of the working classes, remarks on, 317.
Clerk, Mr., botanical draughtsman, 61.
Climate, considered with regard to Horticulture, by T. F. Daniell, Esq. F.R.S., 287.
Clubbing in cabbages, to cure, 293.
Coal ashes and cinders, effects of, on plants, 294.
Cobœa scandens, 12.
Cobbett, William, Esq., his work entitled The Woodlands; or, a Treatise on Planting, &c., account of, 195.
Cochineal Insects and Silk Worms, in Spain, 204.
Cockerell, C. R., Esq., jun., 107.
Cockles, discovery of their existence in fresh water, 335.
Code of Agriculture, translated into French by M. Mathieu Dombasle, 80.
Coffee from the seeds of Astragalus Bœticus, 82. 440.
Coloma, Count, of Malines, 34.
Collyns, William, Esq., on a Devonshire practice in planting vines, and on the use of salt as a manure for arable lands, and for renovating grass lawns, 401.
Colsa, a variety of Brassica, cultivated for its seeds, 64.
Colville, Mr., nurseryman, 31; nursery, 221.
Colzean Castle, treatment of the vines at, 254.
Conservatory at Milburn Tower, 264; at Mr. Angerstein's, Blackheath, *ibid.*; at Slane's Castle, *ibid.*
Conservatory at the Grange, Hampshire, 105; planting and list of plants, 108.
Conservatory at Vienna, 82.
Constantinople, Botany of, by the Rev. Dr. Walsh, 293.
Conversations on Botany, (*advertised*), 234.
Cooke, Mr., fruiterer, of London, 36.
Copenhagen, gardens of, 270.
Copperas, as a vegetable poison, 444.
Coreopsis tinctoria, description of, 453.
Cormack, Son, and Sinclair, nurserymen, New Cross, Deptford, 87.
Cottage economy, 354.
Cottagers, premiums given to, 210.
Cotton, growth of, in New Holland, 207.
Country labourer, benefits to be derived by, from a garden, &c. by W. Stevenson, Esq. 101 —by Mr. Donald, 269.
Country seats, how ruined in Ireland, 13.
in Ireland, omitted in the Encyclopædia of Gardening, 94.
Courtown House, County of Wexford, described, 94.
Covent Garden Market—January, February, and March, 216; April, May, and June, 348; July, August, and September, 462.
Cow tree, of South America, 86.
Coxheath, new fruits planted on, by Mr. Braddick, 34.
Crabtree, Miss, fruit of Pyrus Japonica exhibited by her, 87.
Cranberry, on the cultivation of the English and American, and the water cress at Bretton Hall, by Mr. Christie Duff, C.M.H.S. 151.
Cucumber, a very large one, noticed, 453.
Cucumbers, early, grown in a pit by Mr. John Mearns, 170.
grown in a dung bed in the front of a peach house, by J. Brookhouse, Esq., 171; on forcing, by Mr. Thomas Allen, F.H.S., 416.
Culinary vegetables, mode of accelerating in Louvaine, 325.
Cultivation without dung, 201.
Currants, hybrids, remarks on, 464.
Curtis, John, Esq., his British Entomology, remarks on, 317.
Curtis, Mr. Samuel, his account of a lime duster for the destruction of insects, 415.
Curtis, Mr. William, founder of the Botanical Magazine, 47, 59, 60.
Curtis's directions for cultivating the Crambe maritima, (*advertised*), 232.
Cuttings of oranges, how to prepare, 266.
Cyclamen Persicum, on the culture of, by Mr. John Wilmot, F.H.S., 386.
, sweet scented, remarks on, 453.
Dacre, the Rev. B.; A.L.S., his testimonies in favour of salt as manure, (*advertised*), 197.
Dairies of Switzerland, remarks on, 321.
Dairy account book, (*advertised*), 232.
Dalhousie Castle and Gardens, &c. by Mr. J. Archibald, C.M.H.S., 251.
, Countess of, a zealous and indefatigable botanist, 255.
Gardens, plan of, 252.
Dalkeith, Botany of, 256, 257.

Dall, Mr. James, on raising and fruiting pines with the heat of leaves, without dung or fire heat, 306.
Dalmatian Strawberry, 82.
Daniell, T. F., Esq. F.R.S., 38, 39. On climate with regard to Horticulture, 287.
Daphne laureola, in Corsica, 199.
Day, Mr. P., on the tree cabbage, 307.
Dearn's improved mode of building, (*advertisement*), 233.
Decandolle, Professor, 49; his memoirs on Leguminoseæ, 319.
Denmark, Botanic gardens of, 52.
  Horticulture of, 84.
Deptford Nursery, 87.
Dern, Mr., of Scarbrück, his mode of ticketing plants, 187.
Desfontaines, Professor, 49.
Dickens, C. S. Esq., hot-bed for forcing cucumber constructed by him, 169.
Dickson, Mr. R., a spirited intelligent farmer from East Lothian, 88.
Dingwall, Miss Anne, communication from her on the winter management of bees, 153.
Distillation from plums, 80.
Dodder, French mode of destroying, 79.
Dombasle, M. Mathieu de, his translation of the Code of Agriculture, 80.
Dombasle, M. Mathieu de, son Annales Agricoles de Roville, account of, 196.
Domestic animals in France, society for the amelioration of, 444.
  economy, 353.
Don, Mr. George, A.L.S., 56, 62, 164, 304.
Donald, Mr. Robert, National and Practical Agriculture, &c., in rhyme, account of, 316.
Donald, Mr., on a mode of keeping apples, 268.
Douette-Richardot, Nicholas, de la Pratique de l'Agriculture, &c., account of, 195.
Douglas, Mr. David, 63.
Down lands, enrichment of, in Holland, 445.
Drip in hothouses, plan to prevent, by J. R. Neame, Esq., F.H.S., 431; by Mr. Saul, 481.
Drummond's First Steps to Botany, (*advertised*), 234.
Dry rot, mode of preventing, 336.
Dublin, gardens of, 10.
Dudgeon, Mr. John, 44.
Duff, Mr. Christie, C.M.H.S., on the cultivation of the English and American cranberry and the water-cress, at Bretton Hall, 151.
Duff, Mr., and Mr. W. Seymour, a new mode of training the peach tree, communicated by them, 128.
Dunbar, Professor, F.R.S.E., catalogue of Ericæ in his collection, 131.
Duncan, Mr. Andrew, sen., M.D., Vice-President of the Caledonian Horticultural Society, remarks on his discourse, &c., 218.
Dunne, Mr., at Marley, 262.
Du Petit Thouars, M., 48.
Durham, General, of Largo, in Fife, vinery designed for, 252.
Dutton, Hely, Esq., landscape-gardener, 358.
Eaton Hall, near Chester, described by Mr. Lenné, 309.
Eaus et forêts, traité general des chasses et pêches, &c., par M. Baudrillart, 196.
Eddison, Mr. John, of Penzance, 342.
Edible fruits of Sierra Leone, some account of them, &c., 164.
Edinburgh Amateur Florist Society, 219.
Education of gardeners, 8. 225. 228.
Edwards, Mr., Sydenham, F.L.S., botanical draughtsman, 47. 60.
Egan, Mr., gardener, Mount Merrion, 261.
Egger, translation of, by Bornholz, on the culture of the truffle, 320.
Egg plant, on cultivating and cooking a particular variety, &c., by P. Rainier, Esq., R.N., F.H.S., &c., 307.
Elm trees in Camberwell Grove, Surrey, on a disease which has attacked certain, by a constant reader, 378.
Embankment at Rosslare, 495.
Emigration of gardeners, 206.
Endives, description of the different varieties cultivated in the garden of the Horticultural Society, London, in the year 1824, by Mr. Andrew Matthews, 418.
Entomology, an introduction to, by W. Kirby, M.A., F.R.S., F.L.S., and W. Spence, Esq., F.L.S. (*advertised*), 99. 361; remarks on, 192.
Entomology, British, a nomenclature of, (*advertised*), 361.
Epipactis palustris, found near Dalkeith, 257.
Epsom nursery, 25.
Ericæ, catalogue of, in the collection of Professor Dunbar, F.R.S.E., &c., 131.
  classification of, according to their native soils and habitations, 364.
  in flower in the Tooting nursery, from Oct. 1st, to Nov. 26th, 1825, 88.
  in flower in the Tooting nursery, during a whole year, 364.
Espalier for fruit trees, invented by Mr. A. Stewart, C.M.H.S., 340.
Evaporation, heat and moisture, on the relations of, 27.
Excursion Horticulturale, Récit d'une, fait à Londres, dans le mois d'Avril, 1824, par M. Soulange-Bodin, reviewed, 189.
Exotic Flora, by Professor Dr. Hooker, 47. 62.
Experiments, hints for, 355.
Falk, Baron, 52.
Farm buildings, book of designs for (*advertised*), 97.
  royal, in Denmark, some account of, 446.
Farmer's account book, (*advertised*), 232.
  magazine, 8.
  memorandum book, (*advertised*), 232.
Farming Society of Ireland, April 8, 339.
Felton, S. Esq., queries and suggestions by, 469.
Fence, a formidable one, by Mr. Groom, 350.
  American, 327.
Ferraria Pavonia, on the culture of, by Mr. L. Mathieu, 188.
Ferussac, Baron de, 81.
Field beet, art of obtaining sugar from, 319.
  gardening, and on the gardens of farm servants in Scotland, by Verus, 259.
Fig and grape, an account of a method of obtaining very early crops of, by T. A. Knight, Esq., F.R.S., &c., 426.
Fig-trees, on, and an account of their cultivation, &c., by J. Sabine, Esq. F.R.S. &c. 169.
Fig-trees, the Rev. G. Swayne's mode of protecting the branches of, during winter, 365.
Finlayson, Mr. John, his British Farmer announced, 99; reviewed, 192.
Fischer, Dr., of Petersburgh, 51. 84.
Fish, idea of naturalizing, by Mr. Bakewell, 335.
Fishing Book, (*advertised*), 474.
Fleetwood, Mr. Thomas, on hastening the maturity of grapes on open walls, 169.
Fletcher, Mr. R., his garden and vinery, 254.
Flora Conspicua, review of, 48. 61. (*advertised*), 99. 474.
  of Dalhousie Castle, &c. 256.
  , Society of, at Brussels, 332.
  , the Scottish Cryptogamic, by Robert R. Greville, LL.D., &c., review of, 162.
Florist Society, Edinburgh amateur, 219.
Flower, artificial, maker of, 341.
Flower-garden Chilian, 206.
Flower-pots, ornamental forms for, by Mr. Wilmot, of the Lewisham nursery, 336.
Flower-shows, Islington, 346; Windsor, 346; Hammersmith, 347; Chelsea, 347; Dulwich, 347; Newington, 347; Lancaster, 347. 450; Manchester, 450; Preston, 450; Uxbridge, 450; Windsor, 450; York, 450.
Floyd's Essay on Dog Breaking, (*advertised*), 233. 474.
  Game Book (*advertised*), 474.
Fonthill Abbey, 210.
Forbes, Mr. John, A.L.S., 56, 62; inscription to his memory, 360.
Forbes, Mr., on country seats in Ireland, omitted in the Encyclopedia of Gardening, 94.
Forrest, Mr., of Sion House, 349.
Forsyth, Mr., gardener, Dublin, 13.
Forsyth's Treatise on Fruit Trees, (*advertised*), 234.
Foulk, Mr. W., on the Madeira vaccinium, 302.
Fountains proposed for St. James's Park, 283.

France, botanic gardens of, 48.
Fraser, Mr. Charles, C.M.H.S., Curator of the Colonial Garden at Port Jackson, 86.
Fraser, Mr. James, on the gardening of Ireland, 10. 261.
Fredriksborg, a royal seat, Copenhagen, 270.
Fromont, garden of, 198.
Frost, Mr. John, 89.
Fruit Grower's Instructor (*advertised*), 98.
Fruit, infested with worms, danger of eating, 454.
, new varieties of, to raise, 324.
, notices of new or remarkable varieties, ripened in the summer and autumn of the year 1822, which were exhibited at meetings of the Horticultural Society, 72.
Fruit trees, advantage of summer pruning, 325.
, how to distinguish by blossom, 200.
, mode of training en quenouille, 466.
, observations upon the effects of age upon the different kinds of, with an account of some new varieties of nectarines, by T. A. Knight, Esq., &c. 68.
Fruit trees, on ringing of, by Mr. R. Werthmeister, 187.
Fulton, Mr. George, on the use and abuse of watering vegetables in dry seasons, and on the advantages of shade to culinary crops in times of great drought, 399.
G., Mrs., query and answer, 359.
G. R., on the importance of regularity and systematic conduct in gardeners, 278.
G. R. G., his remarks on the treatment under-gardeners receive from their masters, 410.
Game Book, or Sportsman's Journal, (*advertised*), 233.
Gandy, Mr. Walter, his life and death, 472.
Gardens, and state of gardening in Denmark, by Mr. Jens Petersen, 269.
Garden Botany, review of, 47.
Gardens of Copenhagen, 270.
of cottages, on their improvement, as practised by Lord Cawdor, 275.
of farm servants in Scotland, 259.
Garden of Fromont, 198.
Sherard, at Eltham, 55.
oriental, of Brighton, 211. 450.
Gardeners, education of, 225. 350. 463; emigration of, 206. 356.
Gardener, on the evil effects of being lodged any where else than in his garden, 135.
Gardeners, young men in the Horticultural Society's garden, 345.
, under, remarks on the treatment they receive from their masters, by G. R. G., 410.
, on the importance of system and regularity in their conduct, 278.
, on the remuneration of, by J. P. Burnard, Esq., 141.
Gardener's Magazine, its use, 1. 9. 263.
of Germany, 81. 321.
Gardening and agriculture of China, 448.
Gardening in Ireland, present state of, 10. 261.
in the Illinois, by Mr. William Hall, late of Ewell, Surrey, 327.
in Poland, on the present state of, by Professor Kitaiewski, 375.
, its agreeableness and utility, 1. 268.
Society of Prussia, 51; transactions of, reviewed, 186, 368.
Geraniaceæ, review of, 47. 61.; (*advertised*) 98.
German mode of destroying caterpillars, 81.
Germany, botanic gardens of, 50.
Germination of seeds, 323.
Ghent, shew of plants at, 83.
, society of agriculture and botany, 201.
Gibbs, Mr., of the Brompton nursery, 355.
Gibson, Mr. William, pine apples grown by him under a frame with the heat of leaves alone, 171; his life and death, 360.
Glasgow Botanic Garden, catalogue of, 93.
Glazing sashes, a new mode proposed by Mr. John Read, 307; by Mr. Saul, 431.
Goats of Thibet, 80.
Goldie, Mr., of the Monkwood nursery, 84.
Goodwin's new system of shoeing horses, (*advertised*), 233.
Gooseberry plant, a remarkably large, growing in the garden of Mr. William Bates, a market gardener, at Duffield, near Derby, 171.
Gooseberry shows, 211. 450.
Gorrie, Mr. Archibald, C.M.H.S., on the Huntingdon willow, 44.
Gourds and pompions, on the cultivation of, by Mr. Henry Gray, 150.
Gowen, J. R. Esq. F.H.S., on a hybrid amaryllis produced between A. vittata and A. Regina vittata, 70.
Grafting and budding, in the Illinois, 329.
, modes of, in France, 323.
the cedar on the larch, 199.
the pine and fir tribe, 79.
wax, utility of, by D. Powell, Esq., 67.
Grain, preservation of, on a new plan, 446.
Granadilla, on setting the fruit of, 15.
Grange, Mr., fruiterer, London, 35.
Grape, an account of a new seedling, by Mr. Henry Burn, F.H.S., 415.
, a large plant of the Hamburgh variety noticed, 453.
and fig, an account of a method of obtaining very early crops of, by T. A. Knight, Esq. F.R.S. &c., 426.
, a moveable trellis for, by Mr. Long, noticed, 454, (*advertised*), 473.
, cultivation of, at Inistioge, 340. 458; in Sicily, 82.
, Tottenham Park muscat, 87.
, Frontignac, a peculiarity in the treatment of, at Dalhousie Castle, 253.
, on fecundating the blossom of the black Damascus, by Mr. W. Ross, 308.
, on forcing, as practised in Denmark, by Mr. Peter Lindegaard, C.M.H.S., 168.
on open walls, on hastening the maturity of, by Mr. Thomas Fleetwood, 169.
, sorts grown near Copenhagen, 271.
, Elford seedling, 72.
, West's St. Peter, 36.
Grass garden at the New Cross nursery, 115.
Grasses, culture of, in Holland, 445.
of the Netherlands, work on, 442.
, on cultivating a collection of, in pleasure-grounds or flower-gardens, &c. by Mr. George Sinclair, F.L.S. H.S. &c., nurseryman, 26. 112.
Gray, Mr. Henry, on the cultivation of gourds and pompions, 150.
Great Britain, garden botany of, 53.
Grece's Facts and Observations on the Husbandry of Canada, (*advertised*), 232.
Green fly and other insects, a simple, effectual, and expeditious mode of destroying, by Mr. Thomas M'Laurin, 390.
Green-house, description of a, in the garden of Sir Robert Preston, Bart. at Valleyfield, in Perthshire, by Mr. Alexander Stewart, C.M.H.S., 423.
Green vegetable manure, on the effects of, 20.
Greenshields, Mr. William, on the culture of the pine-apple, 426.
Greville, Robert K., LL.D. &c., review of his Scottish Cryptogamic Flora, 62.
Grierson, W. Esq., Secretary to the Dumfries and Galloway Horticultural Society, 217.
Grisenthwaite's new Theory of Agriculture, (*advertised*), 233.
Groom, Mr., F.H.S., of Walworth's Florists' garden, 349.
Guilding, the Rev. L., B.A. F.R.S., his account of the Botanic Garden of St. Vincent, reviewed, 193.
Gyllenborg's Principles of Agriculture, (*advertised*), 233.
Hackney Nursery Garden catalogue, by Conrad Loddiges and Sons, remarks on, 318.
Hail and thunder protectors, remarks on, 318.
In Savoy, 325.
, Society for assurance against, 444.
Hall, William, Esq., late of Ewell, Surrey, his letter from the Illinois, 327.
Hall's concise treatise on destroying heath, (*advertised*), 232.
Halliday, Mrs., a Scotch botanist, 256.

Hamilton, W., Esq., M.D., on the cultivation in England of the Carolina wax-tree, 403.
Hammer for wall-trees, improved form of, 213.
Hanoverian method of saving lettuce seed, 81.
Hardy heaths, monthly list of, which have been in flower in the open air at Messrs. Rollinson's nursery, Tooting, 374.
Hares or rabbits, to preserve plants from, 210.
Hay, its compression for exportation, 327.
Hay-making machine, in Switzerland, 200.
Hay, Mr. J., garden architect, Edinb. 218. 252.
Hayman's Practical Treatise on Brewing, (*advertised*), 99. 233.
Hayner's Essay on Soils and Composts, (*advertised*), 232.
Hayward's Science of Agriculture (*advertised*), 234.
Science of Horticulture (*advertised*), 234.
Heat, moisture, and evaporation, on the relations of, 57.
Heaths, Cape, list of Professor Dunbar's collection, 131. Monthly catalogue of those in flower in the Tooting nursery throughout the year, 364. On the culture of, by Mr. Bowie, 361. In flower in the Tooting nursery in October and November, 1825, 88.
Hempel, the Rev. Mr., the German pomologist, 190. 394.
Herbaceous vegetables, mode of grafting, by the Baron de Tschudy, 79.
Herbert, the Rev. W., his treatise on bulbous roots (*advertised*), 99.
Hethrington, Mr., President of the Irish Horticultural Society, 264.
Hints on the duties and qualifications of land-stewards and agents (*advertised*), 233.
Hints on the formation of gardens and pleasure-grounds, (*advertised*), 232.
Hiort's treatise on the construction of chimneys, &c., remarks on, 452.
Hirst, Mr. William, on the culture of orchideous plants, 465.
Hoe, improvement on, 343.
Hogg, Mr. Thomas, florist, Paddington, his collection of carnations, 450.
Holboll, Mr., botanic gardener, Charlottenburgh, 272.
Holford, Charles, Esq., F.H.S., his description of a pine-house and pits, 172.
Holland, botanic gardens of, 52.
Hooker, W. J., LL.D. F.R.A. L.S. &c., 47. 60.
Hornby's Dissertation on Lime in Agriculture, (*advertised*), 233.
Hornemann, Mr., a celebrated botanist, 272.
Hornor, F. Esq., 351.
Horses, Russian work on, 448.
Horticultural Impostor, 454.
residence, (*advertised*), 231.
Society, Caledonian, 5. 92. 93. 218. 337. 455.
Society, Caledonian, their garden, description of, and plan, 90.
Society of Cambridge, 450.
of Dumfries and Galloway, 219. 338. 456.
of Edinburgh, New, 219.
of Glasgow, 456.
of Hampshire, 450.
of Hereford, 335. 449.
of Ireland, 339. 457.
and garden at Jamaica, 55. 86. 332.
of London, beneficial influence of, 62.
Observations on the article of "A Fellow of the Society," relative to the conduct and administration of, &c., 393.
Horticultural Society, number of Fellows of, in 1824, 62.
Remarks on, 391. 146.
, garden, 63. 213. 344. 461.
notices of new or remarkable varieties of fruits ripened in the summer and autumn of the year 1822, 72.
Horticultural Society, meetings of, December 20th, January 3d, and 17th, February 7th and 21st, 212. March 7th and 21st, 213. April 4th and 18th, 341. May 2d and 16th, 342. June 6th and 20th, 344. July 4th and 18th, 459. August 1st and 15th, 460.
Horticultural Society's report of the garden committee reviewed, 312. State of the accounts of the Society, and of the garden, 316.
Horticultural Society's garden, report on, reviewed, 312,
Horticultural Society's regulations for the admission of gardeners, 314. State of the accounts, 316.
Horticultural Society's garden, reasons for not subscribing towards the formation or support of, &c. by Mentor, 412.
Horticultural Society, sale of garden produce, 343.
Horticultural Society, transactions of, reviewed, Vol. v., 62. and 1[illegible]3. Vol. vi. part i. 287. Vol. vi. part iii., notice of, 312. Vol. vi. part ii. reviewed, 415.
Horticultural Society of New York, 205.
in Paris, hopes of establishing, 81.
of Ross, 449.
of Yorkshire, particulars of their meeting in May, 334; in July, 449.
Horticulture in St. Petersburgh, 447.
of Denmark, 84.
in Kamtschatka, 396.
of Van Diemen's Land, 208.
Hortus Anglicus, (*advertised*), 100.
Cantabrigiensis of Mr. Donn, 57.
Gramineus Woburnensis (*advertised*), 98.
Hosack, Professor, 53. Descriptive notice of Waltham House, 205.
Hotbed for forcing cucumbers, constructed by C. S. Dickens, Esq. 169.
Hothouse bulbous-rooted plants, on the cultivation of, 31.
fire-places, directions for the management of, by William Atkinson, Esq. F.H.S., 167.
flues, an account of an experiment on, &c. by Mr. Matthias Saul, 152.
flues, on the management of, by the Rev. G. Swayne, 430.
Hothouses, apparatus for ventilating, by Mr. G. Mugliston, 173; by J. Williams, Esq. 419.
Hothouses, hint for heating, by gas, 355.
Hoy, Mr., F. L. S., his supposed invention, 266.
Huddlestone, T. C. Esq., F. H. S., his account of an attempt to arrest the ravages of the aphis lanigera, &c., 388.
Humboldt, Baron de, 49. 86.
Hume, Sir Abraham, Bart., F.R.S. H.S. &c. communication from him on some remarkable specimens of exotics, 154.
Hunneman, Mr. J., botanical and horticultural agent, on the French or Teltow turnip, 307.
Hunt's Picturesque Domestic Architecture (*advertised*), 97.
Huntingdon Willow, on the cultivation of, as a timber tree, 44.
Hutchison, Mr. James, gardener, 257.
Hutton, Dr. James, 38. 40.
Hyde Park, lodges now erecting in, by W. D. Burton, Esq. 353.
Hyde Park and Kensington gardens, improvement of, 89. By John Thomson, Esq., 280. By the Conductor, 283.
Hygrometer of Mr. Daniell, 287.
Hypericum crispum, poison to sheep, 82.
Ice-house at St. Ouen, near Paris, 444.
Indian Millet in Germany, 82.
Ingledew, William, Esq., on the method of rearing seed in the East Indies, &c. of the carrot, turnip, and radish, to prevent the deterioration of those vegetables, 174.
Insects and crustacea, directions for collecting and preserving (*advertised*), 360.
on apple and cherry trees, method of destroying, by T. Patherus, Esq. 169.
on mignionette, queries respecting, 472.
Island of Jersey, its horticulture, 87.
Italy, botanic gardens of, 52.

Italy, north of, remarks on its agriculture and gardening, 322.
Jobbing gardener, on the life of, 24.
Johns, W., M.D., his work on Practical Botany, &c. an account of, 195. ; (*advertised*), 231.
Johnson's Essay on the Uses of Salt for Agricultural Purposes (*advertised*), 232.
Johnston, Mr. Andrew, his description of a pine-pit, to be heated by steam, erected in Shugborough gardens, Staffordshire, 407.
Jones, Mr., optician, Charing Cross, 38.
Judd, Mr. Daniel, F.H.S. on transplanting peas for early crops, 164.
Jussieuean Classification, remarks on, 435.
Kensington Gardens and Hyde Park, improvements on, 89.
Ker, John Bellenden, Esq. F.L.S.H.S., &c., 60.
Kerr, Mr., gardener, 352.
Kew Gardens, notices respecting, 54. 222. 352.
Kirby, William, Esq. M.A., F.R.S. & L.S., and W. Spence, F.L.S., Esq.. their introduction to Entomology (*advertised*), 90 ; remarks on, 192.
Kitaiewski, Professor, his account of the present state of gardening in Poland, 375.
Knapp's Graminea Britannica (*advertised*), 474.
Knevet, Mr., Turnham Green, 87.
Knight, Mr. Joseph, F. H. S., nurseryman, King's Road, 207.
Knight's nursery, King's Road, notice of, 221.
Knight, T. A. Esq., F. R. S., Pres. Hort. Soc., &c. his account of a method of obtaining very early crops of the grape and fig, 426.
his account of a new variety of plum, called the Downton imperatrice, 68.
his hypothesis concerning green vegetable manure, 20.
his observations upon the effects of age on different kinds of fruit trees, with an account of some new varieties of nectarines, 68.
his observations on the cultivation of strawberries, 304.
on the influence of pollen in cross breeding upon the colour of the seed coats of plants, and the qualities of their fruits, 68.
on the preparation of strawberry plants for early forcing, 163.
on the protection of the blossoms of wall trees, 173.
upon the beneficial effects of protecting the stems of fruit-trees from frost in early spring, 424.
Koelreuteria paniculata, fine specimens of, described, Essex, 452.
Labour book, (*advertised*), 232.
Lachlan, Robert, Esq. on hybrid currants, 464.
Lactometers, various sorts. 204.
La Gasca, Professor Don Mariano, 85 ; on the botany and gardening of Spain, 235.
Lambert, Aylmer Bourke, Esq., F. R. S. V. P.L.S., &c. &c. 216. 248. 357.
Land, price of, at Warsaw, 326.
Landscape gardening, Essays on, by Richard Morris, Esq. (*advertised*), 100.
Landscape gardening in Britain, 5.
of Britain and Germany, comparative remarks on, by Mr. Lenné, 310.
Larix communis, specimens of, in Poland, 377.
Lathræa squamaria, culture of, 256.
Laurel, common, in Denmark, remarks on, 203.
Lazenki, a palace near Warsaw, 377.
Lee's Nursery, Hammersmith, notice of, 220.
Leggett, Mr., a landscape-gardener of original talent, 262.
Leguminosæ, Prof. Decandolle's work on, 319.
Lemon and Orange Trees, management of imported plants, by Mr. W. Moore, 152.
Lenné, M., royal garden engineer at Potsdam, on British parks and gardens, 308.
Lime-duster, for the destruction of insects on fruit-trees, account of, by Mr. S. Curtis, 415.
Leschenault, M., 48.
Lettuce seed, Hanoverian method of saving, 81.
Leuchs Char, Volständige Auleitung zur Mästung der Thiere, account of, 196.
Levingston's practical treatise on the gooseberry (*advertised*), 232.
Lilium, on an anomalous appearance of, &c., by E. M. Baines, Esq. Surgeon, Hendon, 273.
Lily of Solomon, 298.
Lima, or Butter Bean, 329.
Lindegaard, M. Peter, C.M.H.S., gardener to the king of Denmark, on forcing grapes, as practised in Denmark, 168 ; on the cultivation of asparagus during the winter, 173.
Lindley, John, Esq., F.L.S. &c., 60. 87. 212.
, on a disease in elm trees, 381, 382.
, on the new or rare plants in the Chiswick Garden, &c., 302.
, on packing seeds and plants in foreign countries, 335.
, Mr. George, C.M.H.S., his classification of peaches and nectarines, 174, 225.
Linnean Classification, remarks on, 435.
Linsey, Mr., gardener to the duke of Devonshire at Chiswick, 89.
Liston, Sir Robert, bart., his conservatory at Milburn Tower, 264.
Lloyd's Botanical Terminology, notice of, 431.
Lockhead, W., Esq., M.W.S., 194.
Loddiges, Conrad and Sons, 47. 56 ; catalogue of the different species of palm cultivated in the stoves of the Hackney Gardens, 136.
Loddiges, catalogue of their garden, 318.
, Conrad, Esq., death of, 229.
Lombardy Poplar, in park scenery, effect of, 16.
, remarks on Mr. Thompson's observations on the effect of, in park scenery, by Richard Morris, Esq. F.L.S., 116.
London Nurseries and Market Gardens, 2.
Lonicera flexuosa and Japonica, 344.
Loudon's Encyclopædia of Agriculture (*advertised*), 233.
Gardening (*advertised*), 234.
Love Apple, see Tomata, 353.
Lucombe, Pince, and Co., their Golden Nectarine noticed, 453 ; (*advertised*), 473.
Lunatics, employment of, in agriculture, in the Netherlands, 326.
Lyman, Theodore, Esq., his country-seat in Massachusetts described, 205.
Lyons, county of Kildare, described, 94.
Mc Adam's observations on the trusts for the care of turnpike roads (*advertised*), 233.
M'Adam's remarks on road making, (*advertised*), 233.
roads in France, 199.
M'Arthur, Mr. P., F.H.S., his account of a conservatory erected at the Grange, &c., 105.
M'Arthur, his description of the mode of preparing the soil, planting, &c., with a list of plants in the conservatory at the Grange, 108.
M'Cabe, Mr., Bushy Park, Dublin, 263.
M'Dougal, Mr. D., his method of destroying worms and slugs, 89.
Mac Intosh, Mr. Charles, on a new verge-cutter and orange tub, invented by him, and also on a new mode of preserving cauliflowers, 139.
Mackay, Mr. J. B., nurseryman, King's Road, and at Clapton, 216. 352.
, Mr. John Townshend, Dublin, 11. 262.
M'Laurin, Mr. Thomas, his mode of destroying the green fly and other insects, 390.
M'Leay, Alexander, Esq. F.R.S. L.S., &c. 86.
W. S., M.A. F.L.S., 380.
M'Leish, Mr., a distinguished landscape gardener in Ireland, 264.
Maclaura aurantiaca, some account of, 356.
Macphail's Gardener's Remembrancer, (*advertised*), 234.
M'Naughton, Mr. Archibald, on the life of a jobbing gardener, 24.
M'Rae, Mr. James, C.M.H.S., 63.
Mace, substitute for, 470.
Maddock's Florists' Directory (*advertised*), 232.
Madeira Vaccinium, on the cultivation of, by Mr. William Foulk, 302.
Madras citron, remarkable specimen of, 154.
Magnolia conspicua, specimen of, 154.
fuscata, fine specimen of, 457.
macrophylla in flower, at Chiswick and Harringay, 88. 344.

Maize, its naturalization in Germany, 81.
Malope trifida, notice of, 468.
Malton's designs for cottages and villas (*advertised*), 233.
Mangold Wurzel, advantages of cultivating, and use as a food for dogs, 454.
Manuel du Pêcheur Français, remarks on, 438.
 Pratique du Laboureur, 437.
Manures, borage, 200; yeast so applied, 294.
Marcet, M. T., of Geneva, on vegetable poison, 89.
Marley, the seat of —— Latouche, Esq., 262.
Martius and Spix, Drs., 51.
Martius, Dr. Von, the celebrated traveller, some notice of his works, 337.
Martyn's Flora Rustica (*advertised*), 232.
Massachusett's Agricultural Repository, 197.
Masseli, Mr. F., on shortening tap-roots, 188.
Masters, Mr. John, F.H.S., of the Stoke Newington Nursery, 211.
Masters', Mr. John, F.H.S., historical notice of two varieties of the garden pea, 153.
Mathieu, Mr. L., commercial gardener, Berlin, his mode of culture of the rhododendra.
Mathieu, Mr. L., on Ferrara pavonia, 188.
Matthews, Mr. Andrew, his description of the different varieties of endives, &c., 418.
Mearns, Mr. John, cucumbers grown in a pit by him, 170.
Medlar, used as a stock for pears by Captain Rainier, 308.
Melianthus major, remarks on its culture, 453.
Melon feast at Southampton, 450.
 grounds, moveable, of M. S. Bodin, 199.
Mentor, his reasons for not subscribing towards the formation of the garden of the Horticultural Society of London, &c., 412.
Merino, a seat near Dublin, 264.
Merville, the villa of Lord Downes, Dublin, 14.
Milburn Tower, conservatory at, 264.
Milk, a treatise on, noticed, 317.
 of the cow tree, 86.
 preparations of, in Flanders, 83.
Miller, Philip, F.R.S., 43. 55.
 Mr., Secretary to the Horticultural Society at Jamaica, 86.
Millet, culture of, in Germany, 82.
Moat Park, County of Roscommon, 94.
Modern art of laying out grounds, remarks on, 6.
Moisture, heat and evaporation, on the relations of, 37.
Mole ploughs, in Switzerland, 82.
Monck, Sir C. M. L., Bart., on destroying worms in pots, 307.
Monkwood nursery, of Mr. Goldie, 85.
Monocotyledonæ, remarks on, 429.
Moore, Mr. William, on the management of newly-imported orange and lemon trees, 152.
Moreton's revolving harrow, 88.
Morris, Richard, Esq. F.L.S., 48. 61; his essays on landscape gardening (*advertised*), 100. 234.
Morris, Richard, Esq. F.L.S., his Flora Conspicua (*advertised*), 99. 234. 473.; remarks on, 432.
Morris, Richard, Esq. F.L.S., his remarks on Mr. Thompson's observations on the effect of the Lombardy poplar in park scenery, 116.
Moscow, agricultural society of, 396.
Moss, growth of plants in, 343.
Mortemart-Boisse, Baron de, 81.
Mountain rice, its culture in Germany, 81.
Mount Merrion, — Verschoyle, Esq. 261.
Mugliston, Mr. George, his description of an apparatus for ventilating hot-houses, 173.
Mulberry-trees, arrival of in Ireland, 223. 340.
Munro, Mr., of the Horticultural Society's garden, Chiswick, 273.
Murray, John, Esq. F.S.A. L.S.H.S. &c., his remarks on the silk worm, &c. reviewed, 317; opinion of paragrêles, 319.
Musk cluster rose, as a stock for the yellow rose, 66.
Mustard seed of Scripture, 89.
Myrica Carolinensis, 404.
 cerifera, culture of in Germany, 199.
Nairn, Mr. John, his "Nairn's scarlet" strawberry, 72.
Nairn, Mr. John, several species of cactus grafted by him on cactus triquetur, 171.
Naturalisation of plants, by T. C. Lewchs, 394.
Neame, T. R. Esq., plan for preventing the drip in hot-houses, 431.
Nectarine and peach, on almond stocks, remarks, including the result of some experiments on budding, by Mr. William Anderson, F.L.S.H.S. &c., 384.
Nectarine, Pirce's golden described, 403; (*advertised*), 473.
 , an account of some new varieties by J. A. Knight, Esq. &c., 68.
Nectarines and peaches on the same tree, 471.
Nectarine-tree, Elruge, description of one in the garden of West-Dean House, Sussex, by Mr. John Bowers, 174.
Neottia nidus avis, in woods on the Esk, 257.
Nerium oleander splendens, on the culture of, by Mr. James Reeve, 402.
Netting, woollen, for fruit trees, by Sir Robert Vaughan, 341.
Nettle, numerous uses of, 199.
Newman, Mr. John, on the culture of Arachis hypogæa, 66.
New Zealand hemp, culture of in Ireland, 94.
Nicol, Mr. Walter, garden architect, 251.
Noehden, Dr., his death, 229.
Noisette, Mr., nurseryman, Paris, 49.
Nolan, Mr., of the royal forcing gardens, Kew, 223. 273.
North America, botanic gardens of, 52.
Nova Scotia, collection of plants from, 255.
Nursery in the island of Jersey, 87.
Nut-tree of Constantinople, fine specimen, 452.
Oak evergreen, on raising in pots, &c., 222.
Œnanthe crocata described, 454.
Oiling stems of trees as a substitute for ringing, 294.
Oldacre, Mr. Isaac, F.H.S. gardener to the Emperor of Russia, on West's St. Peter grape, 36.
Oldacre, Mr. Isaac, F.H.S. his Spring Grove Persian peach; on Wilmot's superb strawberry, 278.
Oleiferous cruciferous plants, 64, 65.
Onions, on a mode of forcing them to produce bulbs in clusters at an early season, 307.
Onions, charcoal dust a top dressing for, 293.
Orange and lemon trees, on the management of newly imported, by Mr. W. Moore, 152.
Orange tub and new verge cutter, by Mr. Charles M'Intosh, and also on a new mode of procuring cauliflowers, 139.
Orchideæ, Mr. Stock's inquiry respecting, 358.
Orchideous plants, culture of, 464, 465.
Original drawings and sketches of natural history, (*advertised*), 474.
Otto, Mr., his observations on Dern's mode of ticketing plants, 187.
 , his experimental observations on the culture of the Bletia Tankervillæ, 188.
Pæonia papaveracea, Madras citron, and Magnolia conspicua, specimens of, 154.
Palms, catalogue of the different species of, cultivated in the stoves of the Hackney garden, by Messrs. Loddiges, 136.
Palms, Dr. Martius' splendid work on, 51.
Palmer, T. C., Esq. F.H.S., his culture of the double yellow rose, 66; new camellia, 341.
Pantheon, Regent's Park, 351.
Paragrêles, 444; Professor Murray's remarks on, 319; by M. Ch. Richardot, remarks on, 318; in Savoy, 325.
Parks, Mr. J. Damper, botanical collector, 63; on managing Tigridi pavonia, 306.
Parks and public squares of London, remarks on, by Mr. Lenné, 311.
Parmentier, M. le Chevalier, mayor of Enghien, 49; his list of pears cultivated in France and the Netherlands, &c. 175.
Patherus, T., Esq., his method of destroying insects on apple and cherry-trees, 169.
Paving, improvement in, by Col. Macirone, 333.
Pea, Bishop's early dwarf, history, description, and mode of treatment of, by Mr. David Bishop, landscape gardener, 196.

Pea, historical notice of two varieties of, by Mr. T. H. Masters, F.H.S., Eden nursery, 153.
Pea, Master's imperial marrow, 153.
, Dwarf knight's marrow, 153.
Pea-husks, how to produce beer from, 324.
Peas for early crops, on transplanting, by Mr. Daniel Judd, F.H.S., 164.
, rearing of, in pots and boxes, in hot-beds and hot-houses, 127.
, method of raising early crops, 338.
Peach and nectarine, remarks, including the result of some experiments on budding on almond stocks, by Mr. William Anderson, F.L.S. H.S., &c., 384.
Peaches and nectarines, arrangements of, relatively to the mildew, 225. Arrangement by Mr. George Lindley, C.M.H.S., 174. 225.
Peaches and nectarines on the same tree, 471.
Peaches, sorts grown near Copenhagen, 271.
, Spring Grove Persian, 72.
Peach-tree, new mode of training, communicated by Mr. W. Seymour and Mr. Duff, 128.
Pears called Silvanges, and particularly on the Silvange Verte (green Silvange), by M. Charles Francis Piérard, C.M.H.S., 163.
Pear, new variety by T. A. Knight, Esq., 341.
Pears, description of some new sorts, by John Turner, Esq., F.L.S., 73.
, a list of, cultivated in France and the Netherlands, &c., 175.
, Beurré d'Aremberg, by Mr. Knevet, 87.
, Beurré Delbecq, some account of, 326.
, Grande Bretagne Dorée, 249.
, Colmar-Dewez, 83.
, notices of three new keeping sorts of, by John Braddick, Esq. F.H.S. 249.
, merveille de la nature, query on, 472.
, on grafting them on apples, 200.
, on the Beurré Spence and other new sorts, and on the art of keeping fruit, by John Braddick, Esq., &c. 144.
, Present de Malines, notice of, 33.
, Prince de Printems, 250.
, Surpasse St. Germain, 249.
Pear-tree, description of one on which the operation of reverse grafting has been performed, by Mr. William Balfour, 71.
Pear-trees for perry, on the cultivation of, by Rusticus, of Kent, 153.
Penny, Mr. George, of the Epsom nursery, on the culture of orchideous plants, 465.
Percival, Dr., of Annfield, 261.
Petersen, Mr. Jens, 203. On the gardens and state of gardening, &c. of Denmark, 269.
Petrovskoyé, a Russian country seat, 203.
Phelps, the Rev. W., on protecting wall-trees from the effects of frost, 306.
Philalethes, on pruning vines in Sept. 211.
Philips's Sylva Florifera (*advertised*), 234.
Phœnix Park, Dublin, 12.
Picot de la Peyrouse's Sketch of the Agriculture of the South of France (*advertised*), 232.
Pictorial Plans (*advertised*), 231. 362.
Piérard, M. Charles Francis, C.M.H.S., note on the pears called Silvanges, &c., 163.
Pines, to grow with the heat of leaves, without dung or fire, by Mr. James Dall, 306.
Pine-apples grown on boards placed over a dung pit, by Mr. John Breese, 308.
grown under a frame with the heat of leaves alone, by Mr. William Gibson, 171.
Pine-apple, large one at Shugborough, 89. One still larger at Stowe, 89.
, monstrous, 342.
, on the cultivation of, by Mr. Alexander Stewart, C.M.H.S., 70.
, on the culture of, by Mr. William Greenshields, 426.
plants, on destroying the bug and scale on, by Mr. John Bowers, 308.
, the different modes of cultivating (*advertised*), 334.
, White Providence, two very large specimens, grown by Mr. Robert Dixon, noticed, 454.
Pine-house and pits, description of, by Charles Holford, Esq. F.H.S., 172.
Pine-pit, description of, to be heated by steam; erected in Shugborough gardens, Staffordshire, by Mr. Andrew Johnston, 407.
Pine-pit, heated by flues, without tan, invented by Mr. A. Stewart, C.M.H.S., of Valleyfield; with a figure, 71.
Pine plants in the garden of the Hort. Soc. 88.
Pine and fir tribe, mode of grafting, by the Baron de Tschudy, 79.
Pine, Scotch, to improve the timber of, 447.
Plantes Fourragères de la Toscane, by M. Gaitono Savi, account of, 196.
Planting in North America, a work on, by Michaux, 205.
Plants, naturalisation of, by J. C. Lewchs, 324.
, to take impressions of, 223.
Plater, Count Louis, 377
Plimley, Mr., of the Royal Forcing Gardens, Kensington, 273.
Plum, a new variety, 89.
, description of an unknown one, 471.
, Downton imperatrice, 68.
, from New Jersey, called La Delicieuse, or Cooper's large red American, 99.
Poa Abyssinia, the teff bread, 28.
Poison, action of, on vegetables, 89.
Pollen, on the influence of, in cross breeding, upon the colour of the seed coats of plants, and the qualities of their fruits, by T. A. Knight, Esq. F.R.S., &c., 68.
Pomme de deux ans, 94.
Pomology, to render more flourishing, 324.
Pomological Society of Altenbourg, 324.
of Guben in Lusatia, 324.
Pomona Italiana, remarks on, 200.
Pompions and gourds, on the cultivation of, by Mr. Henry Greig, 150.
Populus nigra, specimen of, in Denmark, 326.
Portugal, botanic gardens of, 52.
Potash of Russia, how obtained, 447.
Potato, early variety of Penzance, 342.
, early rufford kidney, 406.
, on the culture of the early, as practised in Lancashire, and on the mode of cooking the potatoe there, by R. W., 405.
Potato, thirty-one uses of, enumerated, 438.
, use of the tender tops and leaves, 447.
Potatoes first brought into notice in France by Voltaire, 80.
, how to preserve, in a dried state, 80.
, mineral, in America, 205.
Potts, Mr. John, 56. 62.
Poultry, breeding, rearing, and fattening of, as practised in France, a treatise on (*advertised*), 99.
Powell, David, Esq., on grafting wax, 67.
Powis, Earl, fruit of anona squamosa ripened by him, 73.
Practical Botany, &c. by W. Johns, M.D., 195.
Practical essay on the vine and melon (*advertised*), 474.
Practice of Mr. Robson in respect to pelargonium, hemmemerises, and heliotropes, 12.
Prado of Madrid, 239.
Prangos hay plant, 87.
Preservative against insects and blight, 81.
Prickly pear, 205.
Primula sinensis, in France and the Netherlands, 80.; in Lee's nursery, &c., 290.
Pronville, M., of Versailles, his method of preserving improved varieties of roses, 170.
Provident Institution, &c., plan of, by James Cleghorn, Esq. accountant in Edinburgh, 317.
Provincial Horticultural societies, 88. *See* Hort. Soc.
Prussian gardening society, transactions of, reviewed, 308.
Publication of rare plants proposed to be issued by the Horticultural Society, 88.; of rare fruit, &c. 88.
Public squares and parks of London, remarks on, by Mr. Lenné, 311.
Pulawy, the principal seat of the family of Prince Czartoryski, in Poland, 376.
Pyracantha, beautiful variety of, 12.
Pyrola minor, abundant near Dalkeith, 256.
Pyrus japonica, fruit of, by Miss Crabtree, 87.

Radcliff's report on the agriculture of Flanders (*advertised*), 232.
Radish, carrot, and turnip, rearing seed of, in the East Indies, by W. Ingledew, Esq., 174.
Rainier Peter, Esq. Captain R.N., F.H.S., on the treatment of the banyau tree, 67.
, on cultivating and cooking the brinjall, (aubergine, Fr.) a variety of egg plant, 307.
Ranunculus, the Turkish, observations on forcing, by M. P. F. Bouché, commercial gardener at Berlin, 186.
Rare British plants in the neighbourhood of Dalhousie Castle, 256.
North Amer. plants, a collection of, 255.
or new plants, which have flowered in the garden of the Horticultural Society at Chiswick, previously to 1824, 302.
Rathfarnham Castle, Dublin, 13. 262.
Rawson, Mrs., Stoney Royd Pippin Apple, 73.
Reid, Mr. John, his syringe, 171. 231.
, his description of an instrument for applying tobacco fumigation to plants, 418.
, on a new mode of glazing sashes, 307.
Red Spider, query respecting, 471.
Reeve, Mr. James, on the culture of Nerium oleander splendens, 402.
Regent's Park, improvements in, 336.
Reverse grafting, observations on, by Mr. William Balfour, 274.
Rheum palmatum, as a substitute to the other species cultivated for culinary purposes, by A. T. Thomson, Esq. M.D. F.L.S. H.S. &c., 396.
Rhododendra, on the culture of the, by M. L. Mathieu, commercial gardener, Berlin, 187.
Rhododendron fragrans, 341.
Rhubarb, on forcing, in boxes in a dark room, &c., by Mr. James Smith, C.M.H.S., 307.
Ribes Jasminiflorum, in Sweden, 204.
query of, 229. ; answer, 464.
Richardot's remarks on paragrêles noticed, 319.
Ringing fruit trees, account of the effect of, from a pamphlet by M. C. Bailly, of Paris, 80.
Ringing fruit trees, substitute for, 224.
Roberts, Mrs., her mode of manufacturing gooseberry wine, 93.
Robinia jubata, a curious plant, 52.
Robinson's ornamental villas (*advertised*), 473. ; rural architecture, 473.
Robson, Mr., Phœnix Park, Dublin, 12.
Rockingham, a country seat in Roscommon, described, 94.
Rollisson, Messrs., list of Cape Heaths which have been in flower in their nursery at Tooting, in every month of the year, 366.
Rosa Mul. Grevillii and Noisette, 344.
, account of a remarkable one, 467.
Rose-leaves, tarts of, 207.
Rose, multiplication of, by cuttings, 198.
, Scotch, the double varieties of, 256.
Roses grafted on oak, 83.
, how to preserve their improved colours, by M. Pronville, of Versailles, 170.
, on forcing, by R. A. Salisbury, Esq. F.R.S., 122.
Rosenburgh, a royal seat near Copenhagen, 270.
Ross, Mr. William, F.L.S. H.S., his life, death, burial, and daughters, 95.
, his seedling Camellias, 95.
, on fecundating the blossom of the black Damascus Grape, 308.
Rural Expenditure, essay on the beneficial direction of, by R. Slaney, Esq., reviewed, 175.
Russia, botanic gardens of, 51.
Rusticus, of Kent, on the cultivation of pear trees for perry, 153.
Sabine, J., Esq. F.R.S. &c., account of five new Chinese Chrysanthemums, &c. 73.
Sabine on fig-trees, and an account of their cultivation in a fig-house, in the garden of the late Earl of Bridgewater, at Ashridge, in Hertfordshire, 169. Some account of the edible fruits of Sierra Leone, 164.
Sageret, M., 66. ; Mémoire sur les Cucurbitacées, remarks on, 442.
Salisbury's British Grasses (*advertised*), 474.
Salisbury, R. A., Esq. F.R.S. L.S. H.S. &c., on the cultivation of vines in the open air, 43.
Salisbury on forcing roses, 122.
Salm-Dyke, prince of, 51.
Sinclair's Hortus Gramineus Woburniensis (*advertised*), 474.
Salt as a manure, 335. ; in Denmark, 446.
as a manure for arable lands, use of, and for renovating grass lawns, &c., by William Collyns, Esq., 401.
Salt, testimonies in favour of (*advertised*), 97.
, influence of, on vegetation in France, 323.
Saul, Mr. M., of Lancaster, his transplanting instrument, 267.
, plan for preventing the drip in hothouses, 431.
, his account of an experiment which serves to show that hothouse flues may draw very well, without terminating in an upright shaft or chimney, 152.
Samouelle's Entomologist's Useful Companion (*advertised*), 361.
Saunders, Mr. B., nurseryman, Jersey, 87.
, Mr. H., on the Kitley Shaddock, 265.
Savi, M. Gaitano, Plantes Fourragères de la Toscane, account of, 196.
Scotch farming in Kent, 88.
Sea or shore cale, crambe maritima, on the culture and use of, by Mr. Brash, 189.
Sebright's art of improving the breeds of domestic animals (*advertised*), 233.
observations on breaking and managing hawks (*advertised*), 233. 474.
Sebright, on breeding domestic animals, 474.
Seeds and plants, their packing and expedition from foreign countries, according to a pamphlet prepared by Mr. Lindley, 335.
Seeds, on packing and preserving, 210.
Sennebier's plan for rendering fruit permanently fruitful, 88.
Seton, Alexander, Esq. F.H.S., his mode of numbering plants, remarks on, 437.
Seymour, Mr. William, and Mr. Duff, new mode of training the peach tree communicated by them, 128.
Shaddock, the Kitley, some account of, by Mr. H. Saunders, 265.
Shaw, Sir Robert, Bart., 263.
Sheep, a remarkable disease in, 442.
of Thibet, 79.
Shelton Abbey, Co. Wicklow, described, 94.
Shennan, Mr. W. J., on the treatment of Cactus speciosus, speciosissimus, and other ornamental succulent plants, 398.
Shugborough, large pine apple cut there, 89.
Sibbald, Sir R., discovery of Rosa ciphiana, 256.
Silk worms and cochineal insects in Spain, 204.
in France, 199.
, culture of, in Ireland, 96.
, culture of, in Sweden, 83.
, remarks on the cultivation of, by John Murray, Esq., F.S.A. L.S. H.S. &c., reviewed, 317.
Sims, John, M.D., F.R.S.L., editor of the Botanical Magazine, 47. 60.
Simson, Mr. J., on the best mode of washing water-cresses, 29.
Sinclair, Mr. George, F.L.S. H.S., his Hortus Gramineus Woburniensis (*advertised*), 98.
Sinclair, Mr. George, F.L.S. H.S., on cultivating a collection of grasses in pleasure grounds, 26. 112.
Sinclair and Holditch, their essay on weeds (*advertised*), 98.
Sion House, notice respecting, 349.
Slaney, Robert, Esq. his essay on the beneficial direction of rural expenditure reviewed, 175. (*advertised*) 233.
Smith, Mr. James, C.M.H.S., on forcing onions to produce bulbs in clusters 307.
Mr. James, C.M.H.S., on forcing rhubarb in boxes in a dark room, &c., 307.
Smith, Sir James Edward, F.R.S., Pres. L.S., &c., 26. ; his English Flora (*advertised*), 234.
Smith, Mr., C.M.H.S., on charcoal dust, 293.
Snowdrop, abundance of, at Arniston, 256.
Sondermarken, a royal park, Copenhagen, 270.
Sorgenfrie, a royal seat near Copenhagen, 271.
Soulange-Bodin, Chevalier Etienne, of Fro-

mont, near Paris, 49. 198. ; son Catalogue des Végétaux de Pleine Terre, account of, 196. ; son Récit d'une Excursion Horticulturale faite à Londres, dan le mois d'Avril 1824, reviewed, 189.
Sowerby, Mr. James, F.L.S. &c., 59.
Spain, botanic gardens of, 49.
, botany and gardening of, by Professor Don Mariano La Gasca, 235.
Spanish chestnut, tan from the bark of, 83.
Sparrows, new trap for, 454.
Spence, William, Esq. F.L.S., and William Kirby, Esq. M.A. F.R.S. & L.S., their introduction to entomology (*advertised*), 99. ; remarks on, 192.
Spinage, New Zealand, 200.
Sprengel Curtio, his Systema Vegetabilium reviewed, 155.
Spring Grove, 36.
Stackpole, village of, cottages and gardens, 273.
Statistics of agriculture, Voght's view of, 441.
Steam, essay on heating hot-houses by, of Mr. W. Bailey, 203.
Stems of fruit trees, upon the beneficial effects of protecting from frost in early spring, by Thomas Andw. Knight, Esq. F.R.S. &c., 424.
Steppes, burning of, in Siberia, 447.
Stevenson, William, Esq., on the benefits to be derived by the country labourer from a garden, and the means of teaching him how to acquire those benefits, 101.
Stewart's Farmer's, &c. Companion, 432.
Stewart, Mr. Alexander, C.M.H.S., his mode of culture of the pine-apple, 70.
his description of a green-house in the garden of Sir Robert Preston, Bart. at Valleyfield, in Perthshire, 423.
Stewart, his newly-invented espalier rail, 340.
Stipæ noxa, a disease in sheep, remarks on, 442.
Stock, Mr. Daniel, his query respecting orchideæ, 358. ; answered, 465.
Stocks, ten-week, German varieties of, 337.
Stoffels, Mr. Louis, of Malines, 34. 251.
Stowe, large pine-apple cut there, 89.
Strawberries, Grove End scarlet, 72.
method of cultivating on small ridges, by J. Williams, Esq. of Pitmaston, 308.
Strawberry, Alpine, query respecting, 471.
Bishop's orange, early globe cinnamon (*advertised*), 230. ; Wilmot's superb (*advertised*), 230.
Strawberry, Dalmatian, 82.
different varieties of, cultivated in the garden of the Horticultural Society of London, by Mr. James Barnet, 420.
Strawberry, "Nairn's scarlet," 72.
, on the cultivation of, by T. A. Knight, Esq. F.R.S. &c., 304.
, the melon, 338. Black's, No. 1. and No. 2., 338.
, Wilmot's black imperial, 72.
superb, on the cultivation of, by Mr. Isaac Oldacre, F.H.S., 278.
Strawberry plants, for early forcing, on the preparation of, by Thomas Andrew Knight, Esq. F.R.S. &c. Pres. H.S., 163.
Street, Mr., C.M.H.S. his mode of growing plants in live moss, noticed, 343.
Strokestown House, Co. Roscommon, 94.
Substitutes for hemp in India, 85.
Sugar, from the field beet, art of obtaining, remarks on, 319.
Sun-flower, uses of, in Portugal, 322.
Swain's Gramina Pascua (*advertised*), 474.
Swayne, the Rev. G., on protecting the branches of fig-trees during winter, 306.
, the Rev. G., on the management of hot-house flues, 430.
Sweden, botanic gardens of, 52.
Sweet, Mr. Robert, F.L.S. culture of hot-house bulbous-rooted plants, 31. 47, 48. 61.
Sweet's Botanical Cultivator (*advertised*), 362.
British Flower-Garden (*advertised*), 231.
Warblers, some account of, 193. ; (*advertised*) 231.
Geraniaceæ, Cistineæ, and Botanical Cultivator, (*advertised*) 98. 362.
Sweet's Hortus Britannicus, announced, 99. ; (*advertised*) 362. ; remarks on, 433.
Swine, feeding of, in Mexico, 447.
Sylvester, Mr., his mode of planting the conservatory at the Grange, 111.
Syringe, new, by Mr. John Reid, 171.
Systematic Botany, review of Sprengel's work on, 155.
Systems and methods in natural history, remarks on, 461.
of plants, remarks on, 435.
Tallies, forms of, 258 ; moulds for, by Mr. Archibald, [illegible].
Tan from the bark of Spanish chestnut, 83.
Tankerville, Earl of, 44.
Tap roots of plants, on shortening the, by Mr. F. Masseli, of Militsch, 188.
Tartarian buck-wheat, 325
Taxidermy ; or, the art of preparing objects of natural history, &c. (*advertised*) 99.
Taylor's Phil. Mag., quotation from, 461.
Tea, culture of, in Brazil, 332.
Teall's treatise on the foot-rot in sheep (*advertised*), 233.
Ten-week stocks, Mr. Lee's varieties of, 337.
Tereneure, the seat of F. Bourne, Esq., 262.
Thermometer for bark beds, 312.
Thompson, Mr. J. junior, of Welbeck gardens, on the culture of orchideous plants, 466.
Thompson, John, Esq., on the Lombardy poplar, 16 ; remarks on the effect of the cedar of Lebanon in landscape, 118. ; on the improvement of Hyde Park and Kensington Gardens, 280.
Thomson, Anthony Todd, Esq. M.D. F.L.S., &c. on a hypothesis concerning green vegetable manure, 20. ; hints on the superiority of the rheum palmatum to the other species cultivated for culinary purposes, 396. ; Lectures on the Elements of Botany (*advertised*), 99. 234.
Thouin, Professor Andrew, F. M. H. S. &c., biography of, 226. ; on the Calville Rouge de Micaud apple, 429.
Thunder and hail protectors, remarks on, 318. ; in Savoy, 325.
Thunder and hail, society for mutual assurance against, in France, 80.
Ticketing plants, on the cheapest and most durable mode of, by Mr. Dern of Scarbrük, 187.
Ticketing plants, observations on Mr. Dern's mode of, by Mr. Otto, inspector of the botanic garden of Berlin, 187.
Tigridia pavonia, directions for managing, by Mr. John Damper Parks, 306.
Timber, to preserve from the dry rot, [illegible]
Timothy grass, culture of, in Bavaria, 324.
Tobacco fumigation, description of an instrument for, by Mr. John Reid, 418.
Tollaght, near Dublin, the country seat of the archbishops of that city, 263.
Tomato, methods of preparing the fruit, 363.
Torch-thistle, on the culture of the, by W.P.F. Bouché, 186.
Town gardens, queries respecting, 472.
Traité de la Pomme de Terre, remarks on, 438.
Traité de l'Emploi de la Vapeur pour les Serres Chaudes, by Mr. William Bailey, account of, 197.
Transactions of the London Horticultural Society. *See* Horticultural Society of London.
Transactions of the Prussian Gardening Society, reviewed, 308. Parts III. and IV., 321.
Transplantation of trees in Italy, 82.
Transplanting instrument of Mr. M. Saul, 267. ; of the French, 268.
Tredegar prize-show, 210.
Tredgold, Thomas, Esq. on heat, moisture, and evaporation, 37.
Trees and shrubs, the introduction into Ireland of new species by Mr. Mackay, 458.
Trellis, Long's movable, described, 454. ; (*advertised*) 473.
Trianon Nursery, near Rouen, 445.
Trinity College Garden, Dublin, 11.

Trotter, Alexander, Esq., his method of book-keeping, 192.
Truffles, on the culture of, 390.
Tschudy, the Baron de, his mode of grafting the pine and fir tribe, &c., 79.
Tulip beds, on forming, by Mr. Saul, 451.
, principal, in the neighbourhood of London, 347.; Mr. Lawrence's, 347.; Lancaster tulip show, 347.; Mr. Groom's, at Walworth, 349. 351.
Turner, John, Esq., F. L. S., his description of some new sorts of pear, 73.
Turnip, carrot, and radish, the method of rearing seed of, in the East Indies, by William Ingledew, Esq., 174.
Turnip, early white stone, 210. Yellow, 210.
, on the French or Teltow variety, by Mr. John Hunneman, 307.
Twamley's Essays on the Management of the Dairy (*advertised*), 232.
Ulmus parvifolia, 12.
Underwood, Mr. W., Dublin, 11.
Unripe Melons, how to make the most of, 80.
Van Dieman's Land, horticulture of, 207.; agriculture, 209.
Vandes, Comte de, his botanic garden, 349.
Vaughan, Sir Robert, bart., M.P., F.H.S., woollen netting for fruit trees, by, 341.
Vegetable glue of South America, 332.
life, power of, in Italy, 325.
Ventilator for hothouses, description of a self-acting, by John Williams, Esq. C.M.H.S., 419.; by Mr. Mugliston, 173.
Verge-cutter, on a new, &c., by Mr. Charles M'Intosh, and also on a new mode of preserving cauliflowers, 139.
Verhandlungen des Vereins, &c., Transactions of the Prussian Gard. Soc. reviewed, 186.
Verus on field-gardening, and on the gardens of farm servants in Scotland, 259.
Villa Nuova, belonging to the family of Potocki, near Warsaw, 376.
Vinery, circular one of general Durham, and of Mr. Fletcher, 254.
, plan for, 254.
, description of a, and mode of training practised in it, by Mr. William Beattie, C.M.H.S., 172.
Vines, a peculiarity in the treatment of, by Mr. Archibald, at Dalhousie Castle, 253.; at Colzean Castle, 254.
Vines, cultivation of, in the open air, 43.
, on a Devonshire practice in planting, &c. by William Collyns, Esq., 401.
, on a new mode of grafting, 464.
, on pruning in Sept., by Philalethes, 211.
Vineyards, in Italy, 82.
Voght's Statistics of Agriculture, 441.
Volständige Anleitung zur Mästung der Thiere, &c., by Char Leuchs, 196.
W. B., query of, and answer, 359.
W. B. B., query of, as to insects, 359.; answ. 464.
W. S., query of, 357: answer, 358.
Wade, Dr., botanical professor, Dublin, 11.
Walker, Mr. James, gardener at Melville Castle, his culture of Lathræa squamaria, 256.
Wall-fruit trees, qu. respecting insects on, 470.
Wall trees, on the protection of the blossoms of, by T. A. Knight, Esq. F.R.S. &c., 173.
Wall trees, to preserve, from the effects of frost, by the Rev. W. Phelps, 306.
Walls of compressed earth, 355.
Walsh, the Rev. Robert, LL.D. and C.M.H.S. on the botany of the neighbourhood of Constantinople, 293.
Waltham House, in Massachusetts, 205.
Walworth Florists' Garden, 349.
Waring, R., Esq., his Cray pippin-apple, 73.
Wastes and waters of France, repeopling of, 79.
Water-cress, culture of, in Britain and on the Continent, 200.
, on the cultivation of the, and the English and American cranberry, at Bretton Hall, by Mr. Christie Duff, 151.
Water-cresses, on the best mode of washing, 29.
Water, remarks on the qualities of, for watering vegetables, 222.
Watering vegetables in dry seasons, on the use and abuse of, and on the advantages of shade to culinary crops in times of great drought, by Mr George Fulton, 399.
Watson's Dendrologia Britannica (*advertised*), 474.
Wax-tree, on the cultivation of, in England, by W. Hamilton, Esq. M.D., 403.
Wedgewood, John, Esq., on blanching and forcing Buda-kale, 307.
Weeds, Holditch and Sinclair's Essay on (*advertised*), 98.
Weevil among corn, to destroy, 444.
Werthmeister, Mr. R., his mode of ringing fruit-trees, 187.
Wheat, different sorts of, 211.
, Sandomir, or Polish variety of, 447.
Whin, double-flowering, 342.
Wild mustard, how destroyed in Franconia, 446.
Williams, John, Esq., C.M.H.S., his description of a self-acting ventilator for hot-houses, 419.
Williams, John, Esq., C.M.H.S., on cultivating strawberries on small ridges, &c., 308.
Williams, John, Esq., C.M.H.S., on the cultivation of the yellow rose, 66.
Wilkie, Mr., gardener, Dublin, 13.
, Mr. W., his work on woods, &c., 87.
Willis, Mr. Richard, his account of peaches and nectarines on the same tree, &c., 471.
Wilmot, Mr. John, F.H.S. Isleworth, his mode of cultivating the Cyclamen persicum, 386.
Wilmot, Mr., of Lewisham nursery, his ornamental pots, 336.
Woad, Isatis tinctoria, cultivation of, 82.
Wodzicki, Count, 375.
Woking Nursery, Mr. Donald, 269.
Wood, proposed method of charring, 446.
Woodlands; or, a Treatise on Planting, by William Cobbet, Esq., account of, 195.
Worms and slugs, how destroyed, by Mr. M'Dougal, 89.
Worms in pots, to destroy, by Sir C. M. L. Monck, Bart., 307.
Xanthochymus pictorius, 343.
Yarnall, Mr. R. Keyte, life and death of, 298.
Yeast, as manure, 294.
Yellow rose, on its cultivation at Cobham Hall, 66.; by John Williams, Esq. C.M.H.S., 66.; by J. C. Palmer, Esq. F.H.S., 66.
Young, Mr. Nurseryman, Epsom, 34.
Yucca gloriosa, fine specimens of, 451.; in Ireland, 458.
Yvart, a distinguished French agriculturist, 402.
Zoological Society, prospectus for, 335.

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